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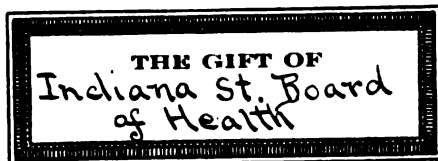
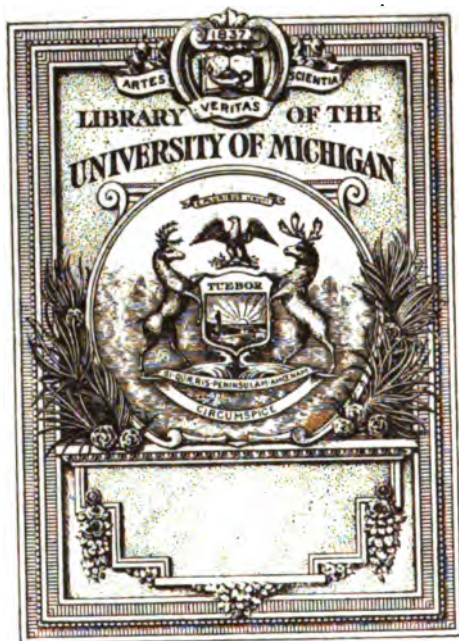
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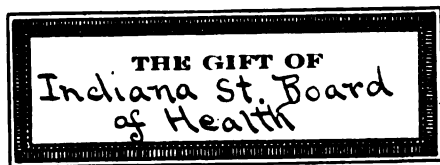
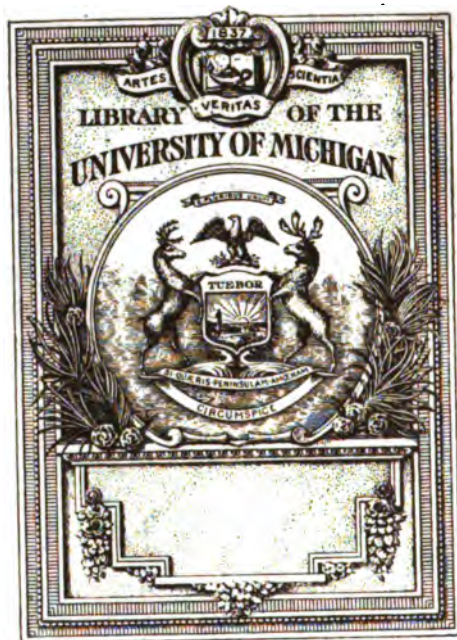
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THIRTY-FOURTH ANNUAL REPORT

OF THE

Indiana. State Board of Health

For the Fiscal and Board Year Ending September 30, 1915

For the Statistical Year Ending December 31, 1915

TO THE GOVERNOR

FORT WAYNE PRINTING COMPANY
CONTRACTORS FOR STATE PRINTING AND BINDING
1917

REPORT OF THE STATE BOARD OF HEALTH.

THE STATE OF INDIANA,
EXECUTIVE DEPARTMENT,

November 30, 1915.

Received by the Governor, examined and referred to the Auditor of State for verification of the financial statement.

OFFICE OF AUDITOR OF STATE,
INDIANAPOLIS, December 28, 1915.

The within report, so far as the same relates to moneys drawn from the State Treasury, has been examined and found correct.

DALE J. CRITTENBERGER,
Auditor of State.

January 4, 1916.

Returned by the Auditor of State, with above certificate, and transmitted to Secretary of State for publication, upon the order of the Board of Commissioners of Public Printing and Binding.

B. B. JOHNSON,
Secretary to the Governor.

Filed in the office of the Secretary of State of the State of Indiana, January 4, 1916.

HOMER L. COOK,
Secretary of State.

Received the within report and delivered to the printer, January 5, 1916.

ED. D. DONNELL,
Clerk Printing Board.

MEMBERS OF THE INDIANA STATE BOARD OF HEALTH.

JAMES S. BOYERS, M. D., President.....Decatur
H. H. SUTTON, M. D., Vice-President.....Aurora
J. L. FREELAND, M. D.,.....Indianapolis
CHAS. B. KERN, M. D.....Lafayette
J. N. HURTY, M. D. Phar. D.....Indianapolis

LETTER OF TRANSMITTAL.

INDIANAPOLIS, November 30, 1915.

HON. SAMUEL M. RALSTON,
Governor of Indiana.

Sir:—We have the honor to present herewith the Thirty-fourth Annual Report of the Indiana State Board of Health. The report, according to the law's commands, gives the transactions and expenditures for the fiscal year ending September 30, 1915; also complete report of the work of the two departments of the State Laboratory of Hygiene, which is under the control of the State Board.

The Statistical Report, which according to the law shall be for the calendar year, cannot be compiled until after that date. We shall, therefore, send in said statistical report as soon after January 1st as it can be tabulated and analyzed; and with our present force and facilities it will take three, or perhaps four months, to do the work. We will push this report with all possible speed.

Very respectfully,

J. N. HURTY,
Secretary.

By order of the State Board of Health.

THIRTY-FOURTH ANNUAL REPORT
OF THE
INDIANA STATE BOARD OF HEALTH

Hon. Samuel M. Ralston, Governor of Indiana:

Sir:—The Indiana State Board of Health, in accordance with the commands of the statutes, has the honor to present herewith its Thirty-fourth Annual Report, which is for the fiscal year ending September 30 and the statistical year ending December, 31, 1915.

THE PUBLIC HEALTH.

It is unfortunate that we have not at this time the statistics for the calendar year from which to draw conclusions concerning the public health. However, we can say for the year ending September 30, we have had a few epidemics and outbreaks of the so-called epidemic diseases, but really nothing serious. Smallpox is still reported from a number of counties each month but its mortality is so low as to make this one-time feared disease negligible when compared to other diseases. Whooping cough is far more destructive in these days than smallpox, yet it is to be feared more on account of its maiming effects than because of the mortality which attends it.

Public Health Day held October 1 in accordance with the law and the proclamation of the Chief Executive, was a great success. The reports show that fully 60 per cent. of the cities and towns and schools observed the day. In Indianapolis, the day was a very great success. The Mississippi Valley Conference on Tuberculosis was in session and extended its stay one day in order to see the Public Health Procession in Indianapolis and to participate in the work. The reports show that most cities and towns where Public Health Day was celebrated had public health processions which certainly have left a good impression. In the Indianapolis public health procession there were 72 floats besides marchers, automobiles, police and brass bands. Thousands of people viewed the procession.

The Board continues to receive numerous letters relating to personal, domiciliary and public hygiene, and the conclusion is that the people are becoming more and more interested in the important matter of health preservation.

Our vital statistics to date show, as in the previous ten years, a slight decrease in the death rates from consumption, pneumonia, typhoid fever, and diphtheria, but at the same time they show a slight increase in the degenerative diseases, such as heart diseases, kidney and liver troubles, and arterio-sclerosis.

SCHOOL HYGIENE.

School hygiene continues to attract a good deal of attention. People are studying it and more and more the idea of better health supervision of the child takes hold. Medical inspection as permitted in the medical inspection law of 1911 is certainly appealing to the people. Public opinion is growing in favor of compulsory medical inspection. In this connection we wish to say the State Board of Health proposes to abandon the term "Medical Inspection" and adopt "Health Supervision" instead. This is because the word "medical" is objected to by many and is not understood, and hence the term itself has in a few instances aroused slight antagonism. It is believed by abandoning this term and accepting Health Supervision instead, that this misunderstanding will not occur. The subject of Health Supervision of school children has been discussed at nearly every teachers' institute held this year. It was discussed by the Secretary of the State Board before the annual convention of County Commissioners held in Indianapolis in September. From our newspaper clippings we discover that the subject has been well presented in the columns of the weekly and daily papers of the state, and without exception these clippings disclose favorable comment upon the subject. The State Board of Health, therefore, will present a bill to the Seventieth General Assembly, which will make Health Supervision of school children compulsory and we have no doubt but the Governor will give his hearty support.

During the last year 132 new schoolhouses, sanitary in every particular have been constructed. Most of these were condemned according to law by the State Board of Health upon petition of patrons. Of course, opposition to schoolhouse improvements was met with to more or less degree in every instance, but the majority of patrons and tax payers are undoubtedly in favor

of surrounding school children with the very best conditions of health and willingly bear the final burden.

INDIANA MOTHERS' BABY BOOK.

The 69th General Assembly gave an appropriation of \$4,000 to continue the Indiana Mothers' Baby Book for 1915 and 1916. This is an increase of \$1,500 over the first appropriation given. The baby book grows more and more popular and has attracted a great deal of attention from other states and even from foreign countries. Letters have been received asking for copies of the same from England, Japan, Australia and other countries. This book is certainly doing a great deal of good and mothers are recognizing its usefulness and address numerous letters of thanks to the State Board. To bring up babies healthy and well is far more important than amelioration and relief. It is also far more important than trying to cure disease and restore adults to useful citizenship who never should have been sick. "Youth is the time to serve the Lord" and it is certainly wise for the state to do all it can to secure health and strength to its infants and to its school children, for they are to be the citizens of tomorrow.

LEGISLATION NEEDED.

Although the health laws of the state of Indiana are most excellent, still they are not perfect, and as long as improvement is possible, the State Board of Health will strive to secure it. As said in our last report, our health law provides for a system of health officers which is not a good system. On the contrary it is very faulty and very bad. From a consideration of all facts, we believe there will be no further progress of advancement in public health work in Indiana until the health officer system is changed. At present county health commissioners and city and town health officers are selected by local authorities. The counties and cities are restricted to selecting licensed practitioners of medicine, but towns may select whom ever they please. The pay which is 1½ cents per annum per capita for county health commissioners, and 2 cents per annum per capita for city and town health officers is not adequate. We should have fewer health officers and better pay. The State Board of Health believes the all-time health officer should be adopted. This system is already in force in New York, Massachusetts, Pennsylvania, New Jersey, North Carolina, Maryland and Wisconsin. The bill prepared by the State Board of Health

and presented to the 69th General Assembly, which was intended to cure the evil above described, failed of passage. It was opposed principally by health officers who draw pretty good sums of money annually and render little service. One county health commissioner, whose fee for services amounted to over \$1,300 and gave only 27 days service according to his own books for the amount received, was strong in opposition of the bill. Several other county health commissioners receiving from three to six and seven hundred dollars opposed the bill, yet none of these had given more than perfunctory service to the state. The presidents of two or three city boards of health and the health officers of their cities opposed the bill. It may truly be said the opposition came almost entirely from health officers. The bill shall be presented to the next legislature and those who believe in true economy and efficiency of service to the state should give it their hearty support. The bill as proposed will be published in this report of the transactions of the board. This at least puts the State Board of Health on record as desiring to advance economy and public health work in the state.

LABORATORY OF HYGIENE.

The Laboratory of Hygiene was moved from the single room it occupied in the State House to more ample and convenient quarters in the Gallop Block, corner of Capitol Avenue and Market Streets. The removal was made May 1, 1915. On account of better facilities and more room the laboratory force is able to be more efficient and do more work than ever before. The work of saving lives through the Pasteur treatment still continues. During the year ending September 30, 212 patients were treated, without one case of rabies appearing. Ordinarily, of those who are bitten, 18 to 20 per cent. develop the disease and of this class 80 per cent. usually die. The Superintendent and every member of the force of the Laboratory of Hygiene should be paid better salaries. There is not a member of the force who cannot earn more money practicing medicine than serving the state, yet they have made a sacrifice to the state because of enthusiasm for public health work and their altruistic beliefs. Not a state in the union pays such low salaries for laboratory and general public health work as Indiana. The Laboratory of Hygiene has been termed the "Life Saving Station". The Pure Food and Drug Laboratories have been termed "Money Saving Stations". Both

are important, but of the two, the hygiene laboratory is the most important because it deals exclusively with the saving of life. We believe through this laboratory fully 1,000 lives are saved annually. Certainly the number is well up in the hundreds. Just as it is impossible to tell whether a person will drown if not hauled out of the water in time, so it is impossible to tell that any person would have died without the services of the laboratory, but the basis is sufficiently broad upon which to draw conclusions. If the good work of the Laboratory of Hygiene is to continue and if more lives are to be saved a better appropriation must be supplied by the legislature. The advancement of the efficiency of the Laboratory of Hygiene would be an illustration of the Biblical saying that "There is a scattering which bringeth an increase, and a withholding which causeth poverty".

SANITARY ENGINEERING DEPARTMENT.

At present we have attached to the Pure Food and Drug Department a sanitary engineer who is assisted by students who come and go. This department was created by the State Board of Health because it was impossible to get along without it and it was fortunate the law would permit. However, not being provided with a special appropriation and without sufficient power, the department is not as efficient as it should be. A department known as the Sanitary Engineering Department of the State should be created and amply supported, and then substantial help could be given to cities and towns in the matter of water supply, sewage disposal, paving and like engineering works. Our present limited facilities permit only limited service and a good deal of energy and writing paper are required to explain to the people why better and more extended aid cannot be given. A bill creating a State Engineering Department will be presented to the 70th General Assembly for we believe this to be economy and a greatly needed service.

We hope after the review of these recommendations that they will meet with your judgment and that it will be your pleasure to advocate them.

Approved by the State Board of Health October 15, 1915.

Attest: J. N. HURTY,
Secretary.

FINANCIAL STATEMENT.

OFFICE STATE BOARD OF HEALTH.

Specific Appropriations for 1915—

Secretary's salary	\$3,000 00	
Clerk Vital Statistics	1,500 00	
	<hr/>	
Total		\$4,500 00

Expended—

Secretary's salary	\$3,000 00	
Clerk Vital Statistics	1,500 00	
Reverting to General Fund	00	
	<hr/>	
Total		\$4,500 00

FINANCIAL STATEMENT.

INDIANA STATE BOARD OF HEALTH.

For Fiscal Year October 1, 1914, to September 30, 1915.

1914.		
Oct.	9.	To W. H. Bass Photo Co., merchandise \$15 80
"	9.	To Bryant & Son, Drays..... 28 50
"	9.	To Central Union Telephone Co., Rental..... 20 00
"	9.	To J. A. Downey, Postal Guide..... 3 50
"	9.	To Kinklins Wig Shop, Suit..... 3 00
"	9.	To Kipp Bros., merchandise..... 16 80
"	9.	To The H. Lieber Co., merchandise... 85
"	9.	To Puryear & Porter, Drayage..... 5 00
"	9.	To Walter P. Scott, labor..... 2 25
"	9.	To J. L. Anderson, expenses..... 4 60
"	9.	To Fertig & Kevers, signs..... 36 35
"	9.	To Indianapolis Telephone Co., rental. 22 50
"	9.	To T. Henry Davis, M. D., expense... 3 25
"	9.	To Dr. Jas. S. Boyers, expense..... 6 10
"	9.	To Dr. H. H. Sutton, expense..... 5 80
"	30.	To R. E. Springsteen, postage stamps.. 100 00
"	31.	To Dr. W. F. King, salary..... 208 33
"	31.	To J. L. Anderson, salary..... 125 00
"	31.	To Ethel Hoffman, salary..... 60 00
"	31.	To Louise Lingenfelter, salary..... 60 00
"	31.	To Fannie Stevenson, salary..... 60 00
"	31.	To Sadye Slutzky, salary..... 60 00
"	31.	To Lucetta C. Lee, salary..... 50 00
"	31.	To Elva Schweitzer, salary..... 50 00
"	31.	To Nelle Rollison, salary..... 50 00
"	31.	To Ethel Johnson, salary..... 50 00
Nov.	5.	To American Tent & Awning Co., merchandise..... 20 00
"	5.	To Aquos Distilled Water Co., mer- chandise..... 4 00
"	5.	To W. H. Bass Photo Co., merchandise. 1 50
"	5.	To Balke & Krauss Co., merchandise.. 37 84
"	5.	To W. B. Burford, merchandise..... 311 38
"	5.	To Drobuys Studio, merchandise..... 2 10
"	5.	To J. N. Fatout, signs..... 6 00
"	5.	To Indiana Press Clipping Service, clippings..... 10 00

1914.

Nov.	5.	To Indpls. Mfgs. & Carpenters Union, merchandise.....	\$2 25
"	5.	To Indpls. Tent & Awning Co., labor..	1 40
"	5.	To Remington Typewriter Co., mer- chandise.....	5 00
"	5.	To W. A. Swift, merchandise.....	11 60
"	5.	To Central Union Telephone Co., tolls.	2 00
"	5.	To Indpls. Telephone Co., tolls.....	2 05
"	5.	To C. G. Willoughby, camera.....	74 40
"	5.	To Dr. W. F. King, expense.....	35 22
"	5.	To J. L. Anderson, expense.....	15 12
"	5.	To Adams Express Co., service.....	8 58
"	30.	To Dr. W. F. King, salary.....	208 33
"	30.	To J. L. Anderson, salary.....	125 00
"	30.	To Ethel Hoffman, salary.....	60 00
"	30.	To Louise Lingenfelter, salary.....	60 00
"	30.	To Fannie Stevenson, salary.....	60 00
"	30.	To Sadye Slutzky, salary.....	60 00
"	30.	To Lucetta C. Lee, salary.....	50 00
"	30.	To Elva Schweitzer, salary.....	50 00
"	30.	To Nelle Rollison, salary.....	44 00
"	30.	To Ethel Johnson, salary.....	50 00
Dec.	8.	To Addressograph Co., merchandise...	3 13
"	8.	To American Multigraph Sales Co., merchandise.....	1 90
"	8.	To Aquos Distilled Water Co., mer- chandise.....	3 50
"	8.	To W. H. Bass Photo Co., merchandise.	7 20
"	8.	To W. B. Burford, merchandise.....	196 14
"	8.	To Indianapolis Telephone Co., tolls..	1 00
"	8.	To Adams Express Co., service.....	3 05
"	8.	To American Express Co., service.....	3 52
"	8.	To Wells-Fargo Express Co., service...	1 33
"	8.	To Fertig & Kevers, charts.....	14 00
"	8.	To Fulton Office Furniture Co., mer- chandise.....	1 25
"	8.	To Hatfield Electric Co., merchandise.	90 48
"	8.	To Indiana Press Clipping Service, clippings.....	10 00
"	8.	To Indiana Electrotype Co., mdse....	20 40
"	8.	To Lea & Febiger, book.....	2 50
"	8.	To The H. Lieber Co., merchandise....	6 20
"	8.	To E. E. Mangold, merchandise.....	1 20
"	8.	To L. E. Morrison & Co., merchandise	5 88
"	8.	To W. S. Rankin, Treas., dues.....	10 00
"	8.	To W. K. Stewart Co., books.....	15 50
"	8.	To Western Union Telegraph Co., tolls.	4 78
"	8.	To Dr. W. F. King, expense.....	21 15
"	8.	To Harry E. Bishop, expense.....	10 00
"	8.	To Dr. Simon J. Young, photos.....	5 00

1914.

Dec.	8.	To J. L. Anderson, expense.....	\$13 13
"	8.	To Railroad Transfer Co., drayage....	50
"	8.	To Mrs. F. M. Anderson, services.....	35 00
"	16.	To R. E. Springsteen, stamps.....	100 00
"	31.	To Dr. W. F. King, salary.....	208 34
"	31.	To J. L. Anderson, salary.....	125 00
"	31.	To Ethel Hoffman, salary.....	60 00
"	31.	To Louise Lingenfelter, salary.....	60 00
"	31.	To Fannie Stevenson, salary.....	60 00
"	31.	To Sayde Slutzky, salary.....	60 00
"	31.	To Lucetta C. Lee, salary.....	50 00
"	31.	To Elva Schweitzer, salary.....	50 00
"	31.	To Ethel Johnson, salary.....	50 00
"	31.	To Orhpa M. McLaughlin, salary.....	25 00

1915.

Jan.	8.	To The Adder Machine Co., merchandise.....	250 00
"	8.	To American Toilet Supply Co., laundry.....	5 55
"	8.	To Aquos Distilled Water Co., merchandise.....	3 00
"	8.	To W. H. Bass Photo Co., merchandise.....	3 20
"	8.	To Balke & Krauss Co., merchandise..	28 50
"	8.	To W. B. Burford, merchandise.....	72 40
"	8.	To American Express Co., service.....	89
"	8.	To T. H. Flood & Co., book.....	7 50
"	8.	To Indiana Press Clipping Service clippings.....	10 00
"	8.	To Individual Drinking Cup Co., merchandise.....	7 50
"	8.	To The H. Lieber Co., merchandise...	1 50
"	8.	To The Walter C. Nichols Co., merchandise.....	70
"	8.	To Remington Typewriter Co., merchandise.....	42 55
"	8.	To Otto Sellers, merchandise.....	1 75
"	8.	To W. K. Stewart Co., merchandise...	12 00
"	8.	To The Survey, subscriptions.....	3 00
"	8.	To Receivers, Central Union Telephone Co., rent.....	20 00
"	8.	To Indpls. Telephone Co., tolls and rent	24 35
"	8.	To Western Union Telegraph, tolls....	2 25
"	8.	To Dr. J. N. Hurty, expense.....	186 30
"	8.	To Dr. W. F. King, expense.....	31 75
"	8.	To J. L. Anderson, expense.....	39 95
"	8.	To Indpls. Calcium Light Co., operator and expense.....	29 50
"	8.	To Maas-Neimayer Lumber Co., merchandise.....	2 00

1915.

Jan.	8.	To Dr. Jas. S. Boyers, expense board meeting.....	\$7 35
"	8.	To Dr. T. Henry Davis, expense board meeting.....	3 10
"	8.	To Dr. H. H. Sutton, expense board meeting.....	75 20
"	27.	To R. E. Springsteen, P. M., postage stamps.....	100 00
"	31.	To Dr. W. F. King, salary.....	208 33
"	31.	To J. L. Anderson, salary.....	125 00
"	31.	To Ethel Hoffman, salary.....	60 00
"	31.	To Louise Lingenfelter, salary.....	60 00
"	31.	To Fannie Stevenson, salary.....	60 00
"	31.	To Sadye Slutzky, salary.....	60 00
"	31.	To Lucetta C. Lee, salary.....	50 00
"	31.	To Elva Schweitzer, salary.....	50 00
"	31.	To Ethel Johnson, salary.....	50 00
"	31.	To Orpha M. McLaughlin, salary.....	50 00
Feb.	5.	To American Med. Assoc., subs.....	5 00
"	5.	To American Pub. Health Assn., Subs. and dues.....	5 00
"	5.	To Aquos Distilled Water Co., merchandise.....	3 00
"	5.	To Wm. H. Armstrong Co., merchandise.....	22 90
"	5.	To Balke & Krauss Co., merchandise..	97 50
"	5.	To W. B. Burford, merchandise.....	468 12
"	5.	To Adams Express Co., service.....	40
"	5.	To Wells-Fargo Express Co., service...	25
"	5.	To Indiana Paper Co., merchandise...	98
"	5.	To Indiana Press Clipping Service, clippings.....	10 00
"	5.	To Lancet-Clinic Publishing Co., subscriptions.....	3 00
"	5.	To The H. Lieber Co., merchandise...	50
"	5.	To Geo. J. Mayer Co., merchandise...	4 00
"	5.	To Remington Typewriter Co., merchandise.....	43 95
"	5.	To Indpls. Telephone Co., tolls.....	4 00
"	5.	To Western Union Telegraph Co., tolls.	2 62
"	5.	To Miss Gertrude Tuttle, service.....	10 00
"	5.	To J. L. Anderson, expense.....	47 58
"	5.	To Dr. W. F. King, expense.....	9 15
"	5.	To Vonnegut Hardware Co., merchandise.....	3 70
"	5.	To Willis Shores Co., merchandise...	1 25
"	5.	To Correction of Error Voucher No. 60636.....	6 00
"	28.	To Dr. W. F. King, salary.....	208 33
"	28.	To J. L. Anderson, salary.....	125 00

1915.

Feb.	28.	To Ethel Hoffman, salary.....	\$60 00
"	28.	To Louise Lingenfelter, salary.....	60 00
"	28.	To Fannie Stevenson, salary.....	60 00
"	28.	To Sadye Slutzky, salary.....	60 00
"	28.	To Lucetta C. Lee, salary.....	50 00
"	28.	To Elva Schweitzer, salary.....	50 00
"	28.	To Ethel Johnson, salary.....	50 00
"	28.	To Orpha M. McLaughlin, salary.....	50 00
Mar.	5.	To J. L. Anderson, expense.....	16 82
"	5.	To Aquos Distilled Water Co., mer- chandise.....	3 50
"	5.	To W. H. Bass Photo Co., merchandise.....	27 30
"	5.	To W. B. Burford, merchandise.....	126 46
"	5.	To Dr. Chas. A. Carter, merchandise.....	2 30
"	5.	To Adams Express Co., service.....	25
"	5.	To Indiana Press Clipping Service, clippings.....	10 00
"	5.	To Indpls. Blue Print & Supply, mer- chandise.....	3 50
"	5.	To Indpls. Calcium Light Co., service and merchandise.....	25 95
"	5.	To John Lees, merchandise.....	50 00
"	5.	To The H. Lieber Co., merchandise...	22 08
"	5.	To Chas. Mayer & Co., merchandise..	4 14
"	5.	To Staley & Crabb, labor.....	48 75
"	5.	To Central Union Telephone Co., tolls.	1 65
"	5.	To Indianapolis Telephone Co., tolls...	7 60
"	5.	To Western Union Telegraph Co., tolls.	1 87
"	5.	To Vonnegut Hardware Co., mer- chandise.....	6 75
"	5.	To American Multigraph Sales Co., merchandise.....	2 30
Mar.	31.	To Dr. W. F. King, salary.....	208 34
"	31.	To J. L. Anderson, salary.....	125 00
"	31.	To Ethel Hoffman, salary.....	65 00
"	31.	To Louise Lingenfelter, salary.....	65 00
"	31.	To Fannie Stevenson, salary.....	65 00
"	31.	To Sadye Slutzky, salary.....	65 00
"	31.	To Lucetta C. Lee, salary.....	60 00
"	31.	To Elva Schweitzer, salary.....	60 00
"	31.	To Orpha M. McLaughlin, salary.....	60 00
"	31.	To Ethel Johnson, salary.....	50 00
"	31.	To Louise V. Davis, salary.....	25 00
April	3.	To R. E. Springsteen, P. M., postage stamps.....	150 00
"	9.	To J. L. Anderson, expense.....	9 94
"	9.	To A. W. Bruner, expense.....	21 70
"	9.	To Dr. C. A. Carter, expense.....	8 60
"	9.	To Dr. J. N. Hurty, expense.....	59 44
"	9.	To Dr. W. F. King, expense.....	34 65

1915.

April	9.	To F. W. Tucker, expense.....	\$17 45
"	9.	To Richard White, expense.....	25 64
"	9.	To American Toilet Supply Co., laundry.....	5 55
"	9.	To American Genetic Assn., dues.....	2 00
"	9.	To Aquos Distilled Water Co., mer- chandise.....	3 00
"	9.	To W. H. Bass Photo Co., merchandise.	22 70
"	9.	To W. B. Burford, merchandise.....	91 60
"	9.	To Central Union Telephone Co., rental.....	20 00
"	9.	To Adams Express Co., service.....	1 10
"	9.	To American Express Co., service.....	24
"	9.	To Guide Publishing Co., subscriptions	2 00
"	9.	To Holland Photo Studio, merchandise	18 00
"	9.	To Indiana Electrotpe Co., mer- chandise.....	10 65
"	9.	To Indiana Press Clipping Service, clippings.....	10 00
"	9.	To Indpls. Calcium Light Co., service and repairs.....	22 50
"	9.	To Indpls. Telephone Co., rent and tolls.....	25 40
"	9.	To Individual Drinking Cup Co., mer- chandise.....	20 10
"	9.	To The H. Lieber Co., merchandise...	1 95
"	9.	To Western Union Telegraph Co., tolls.	75
"	9.	To Dr. T. Henry Davis, board meeting.	3 25
"	9.	Dr. Jas. S. Boyers, board meeting.....	27 06
"	9.	Dr. H. H. Sutton, board meeting.....	5 45
"	30.	To Dr. W. F. King, salary.....	208 33
"	30.	To J. L. Anderson, salary.....	125 00
"	30.	To Ethel Hoffman, salary.....	65 00
"	30.	To Louise Lingenfelter, salary.....	65 00
"	30.	To Fannie Stevenson, salary.....	65 00
"	30.	To Sadye Slutzky, salary.....	65 00
"	30.	To Lucetta C. Lee, salary.....	60 00
"	30.	To Elva Schweitzer, salary.....	60 00
"	30.	To Orpha M. McLaughlin, salary.....	60 00
"	30.	To Ethel Johnson, salary.....	50 00
"	30.	To Louise V. Davis, salary.....	52 75
May	7.	To American Med. Pub. Co., subscrip- tions.....	1 00
"	7.	To American Multigraph Sales Co., merchandise.....	1 75
"	7.	To Aquos Distilled Water Co., mer- chandise.....	4 00
"	7.	To W. B. Burford, merchandise.....	143 23
"	7.	To C. R. Anderson, expense.....	5 52
"	7.	To J. L. Anderson, expense.....	13 04

1915.

May	7.	To Dr. C. A. Carter, expense.....	\$11 20
"	7.	To Dr. H. A. Cowing, reprints.....	4 30
"	7.	To Dr. W. F. King, expense.....	64 84
"	7.	To Educational Exhibition Co., mer- chandise.....	9 11
"	7.	To Adams Express Co., service.....	14 13
"	7.	To Fulton Office Furniture Co., mer- chandise.....	14 85
"	7.	To Indiana Press Clipping Service, clippings.....	10 00
"	7.	To The H. Lieber Co., merchandise...	1 44
"	7.	To Dr. Ada E. Schweitzer, expense....	8 22
"	7.	To Indpls. Telephone Co., tolls.....	2 05
"	7.	To Western Union Telegraph Co., tolls.	2 32
"	22.	To R. E. Springsteen, P. M., postage..	150 00
"	28.	To Walter D. Thurber, expense.....	38 03
"	31.	To Dr. W. F. King, salary.....	208 33
"	31.	To J. L. Anderson, salary.....	125 00
"	31.	To Ethel Hoffman, salary.....	65 00
"	31.	To Louise Lingenfelter, salary.....	65 00
"	31.	To Fannie Stevenson, salary.....	65 00
"	31.	To Sadye Slutzky, salary.....	65 00
"	31.	To Lucetta C. Lee, salary.....	60 00
"	31.	To Elva Schweitzer, salary.....	60 00
"	31.	To Orpha McLaughlin, salary.....	60 00
"	31.	To Ethel Johnson, salary.....	25 00
"	31.	To Geo. Shea, salary.....	32 50
"	31.	To Ethel Roberts, salary.....	60 00
"	31.	To Walter D. Thurber, salary.....	10 00
June	8.	To American Multigraph Sales Co., merchandise.....	1 61
"	8.	To Aquos Distilled Water Co., mer- chandise.....	3 00
"	8.	To W. B. Burford, merchandise.....	972 57
"	8.	To Central Union Telephone Co., tolls.	2 55
"	8.	To Adams Express Co., Service.....	2 04
"	8.	To American Express Co., service.....	70
"	8.	To The Francis Pharmacy Co., mer- chandise.....	2 25
"	8.	To Indiana Press Clipping Service, clippings.....	10 00
"	8.	To Indpls. Calcium Light Co., mer- chandise.....	4 00
"	8.	To Indpls. Telephone Co., tolls.....	20
"	8.	To The H. Lieber Co., merchandise...	8 61
"	8.	To Geo. J. Mayer Co., merchandise...	80
"	8.	To Pettis Dry Goods Co., merchandise.	99 75
"	8.	To Sentinel Printing Co., merchandise.	1 25
"	8.	To J. L. Anderson, expense.....	32 13
"	8.	To Dr. W. F. King, expense.....	40 38

1915.

June	8.	To Dr. Jas. S. Boyers, expense and board meeting.....	\$27 10
"	8.	To Dr. H. H. Sutton, expense and board meeting.....	31 10
"	8.	To Dr. Chas. B. Kern, expense and board meeting.....	35 10
"	8.	To Western Union Telegraph Co., tolls.	75
"	8.	To Kantz Stationary Co., merchandise.	1 30
"	30.	To Dr. W. F. King, salary.....	208 34
"	30.	To J. L. Anderson, salary.....	125 00
"	30.	To Ethel Hoffman, salary.....	65 00
"	30.	To Louise Lingenfelter, salary.....	65 00
"	30.	To Fannie Stevenson, salary.....	65 00
"	30.	To Sadye Slutzky, salary.....	65 00
"	30.	To Lucetta C. Lee, salary.....	60 00
"	30.	To Mrs. Elva Thompson, salary.....	60 00
"	30.	To Orpha M. McLaughlin, salary.....	60 00
"	30.	To Ethel Johnson, salary.....	50 00
"	30.	To Ethel Roberts, salary.....	60 00
"	30.	To George Shea, salary.....	65 00
"	30.	To Walter D. Thurber, salary.....	10 00
July	2.	To Dr. Jas. S. Boyers, expense board meeting.....	11 30
"	2.	To Dr. H. H. Sutton, expense board meeting.....	5 25
"	2.	To Dr. J. L. Freeland, H. O. Conference.....	20 00
"	2.	To Dr. Chas. B. Kern, expense board meeting.....	3 10
"	2.	To Dr. George W. Bence, services.....	20 00
"	2.	To Dr. M. D. Hadley, services.....	10 00
"	2.	To Dr. B. D. Myers, services.....	15 00
"	2.	To Dr. J. N. Hurty, Secretary, expenses.....	153 90
"	7.	To American Toilet Supply Co., laundry.....	5 55
"	7.	To Aquos Distilled Water Co., merchandise.....	1 00
"	7.	To W. B. Burford, merchandise.....	122 34
"	7.	To Central Union Telephone Co., rent.	20 00
"	7.	To American Express Co., service....	82
"	7.	To The Francis Pharmacy Co., merchandise.....	3 00
"	7.	To E. J. Gausepohl & Co., merchandise	9 00
"	7.	To Holland Photo Studio, merchandise	2 00
"	7.	To Indiana Electrotpe Co., merchandise.....	14 75
"	7.	To Indiana Press Clipping Service, clippings.....	10 00
"	7.	To Indpls. Telephone Co., rent and tolls.	20 60

1915.

July	7.	To Individual Drinking Cup Co., merchandise.....	\$7 80
"	7.	To Interstate Medical Journal, subscriptions.....	2 00
"	7.	To Geo. J. Mayer Co., merchandise...	40
"	7.	To Wm. H. Baldwin, Treas., dues.....	5 00
"	7.	To Remington Typewriter Co., rental.	1 50
"	7.	To J. L. Anderson, expense.....	11 90
"	7.	To Vonnegut Hardware Co., merchandise.....	75
"	7.	To Dr. W. F. King, expense.....	3 56
"	15.	To R. E. Springsteen, postage stamps.	290 00
"	29.	To R. E. Springsteen, postage stamps.	35 00
"	31.	To Dr. W. F. King, salary.....	208 33
"	31.	To J. L. Anderson, salary.....	125 00
"	31.	To Ethel Hoffman, salary.....	65 00
"	31.	To Louise Lingenfelter, salary.....	65 00
"	31.	To Fannie Stevenson, salary.....	65 00
"	31.	To Sadye Slutzky, salary.....	65 00
"	31.	To Lucetta C. Lee, salary.....	60 00
"	31.	To Mrs. Elva Thompson, salary.....	60 00
"	31.	To Orpha M. McLaughlin, salary.....	60 00
"	31.	To Ethel Johnson, salary.....	50 00
"	31.	To George Shea, salary.....	65 00
"	31.	To Ethel Roberts, salary.....	60 00
"	31.	Walter D. Thurber, salary.....	10 00
"	31.	To Haynes Freeland, salary.....	75 00
Aug.	4.	To H. E. Bishop, expense.....	5 00
"	4.	To W. B. Burford, merchandise.....	474 91
"	4.	To D. W. Flanigan, merchandise.....	6 20
"	4.	To Jas. E. Hawkins, merchandise....	2 90
"	4.	To Indiana Press Clipping Service, clippings.....	10 00
"	4.	To Indpls. Tent & Awning Co., labor..	1 00
"	4.	To The H. Lieber Co., merchandise...	2 57
"	4.	To Geo. J. Mayer Co., merchandise...	3 00
"	4.	To G. H. Westing Co., merchandise...	162 00
"	4.	To Willis-Shores Co., merchandise....	56 50
"	4.	To Richard White, expense.....	39 65
"	4.	To J. L. Anderson, expense.....	5 48
"	4.	To Dr. W. F. King, expense.....	27 31
"	4.	To A. W. Bruner, expense.....	26 42
"	4.	To Aquos Distilled Water Co., merchandise.....	3 00
"	4.	To American Express Co., service....	46
"	4.	To Adams Express Co., service.....	5 77
"	4.	To American Multigraph Sales Co., merchandise.....	1 00
"	4.	To Indpls. Telephone Co., tolls.....	1 45
"	4.	To Haynes J. Freeland, expense.....	44 43

1915.

Aug.	4.	To George Shea, expense.....	\$127 00
"	4.	To Walter D. Thurber, expense.....	25 42
"	31.	To Dr. W. F. King, salary.....	208 33
"	31.	To J. L. Anderson, salary.....	125 00
"	31.	To Ethel Hoffman, salary.....	65 00
"	31.	To Louise Lingenfelter, salary.....	65 00
"	31.	To Fannie Stevenson, salary.....	65 00
"	31.	To Sadye Slutzky, salary.....	65 00
"	31.	To Lucetta C. Lee, salary.....	60 00
"	31.	To Mrs. Elva Thompson, salary.....	60 00
"	31.	To Orpha McLaughlin, salary.....	60 00
"	31.	To Ethel Johnson, salary.....	50 00
"	31.	To George Shea, salary.....	65 00
"	31.	To Ethel Roberts, salary.....	60 00
"	31.	To Walter D. Thurber, salary.....	10 00
"	31.	To H. J. Freeland, salary.....	75 00
Sept.	7.	To Aquos Distilled Water Co., mer- chandise.....	1 00
"	7.	To American Medical Assn., reprints.	2 50
"	7.	To American Multigraph Sales Co., merchandise.....	50
"	7.	To W. B. Burford, merchandise.....	159 65
"	7.	To Central Union Telephone Co., tolls.	1 20
"	7.	To Adams Express Co., service.....	6 85
"	7.	To American Express Co., service.....	6 73
"	7.	To Fertig & Kevers, signs.....	7 50
"	7.	To Holland Photo Studio, merchandise.	31 85
"	7.	To Indiana Press Clipping Service, clippings.....	10 00
"	7.	To Russell Sage Foundation, circ's...	1 12
"	7.	To W. K. Stewart Co., books.....	9 50
"	7.	To Vonnegut Hardware Co., mer- chandise.....	1 13
"	7.	To J. L. Anderson, expense.....	6 28
"	7.	To H. J. Freeland, expense.....	48 56
"	7.	To Dr. W. F. King, expense.....	177 35
"	7.	To George Shea, expense.....	180 80
"	7.	To Walter D. Thurber, expense.....	35 99
"	13.	To R. E. Springsteen, P. M., postage stamps.....	150 00
Nov.	20.	To R. E. Springsteen, P. M. (Voucher 61782) postage stamps.....	100 00

1914.

Sept.	30.	To Dr. W. F. King, salary.....	208 34
"	30.	To J. L. Anderson, salary.....	125 00
"	30.	To Ethel Hoffman, salary.....	65 00
"	30.	To Louise Lingenfelter, salary.....	65 00
"	30.	To Fannie Stevenson, salary.....	65 00
"	30.	To Sadye Slutzky, salary.....	65 00
"	30.	To Lucetta C. Lee, salary.....	60 00

1914.

Sept.	30.	To Mrs. Elva Thompson, salary.....	\$60 00
"	30.	To Orpha M. McLaughlin, salary.....	60 00
"	30.	To Ethel Johnson, salary.....	50 00
"	30.	To George Shea, salary.....	65 00
"	30.	To Ethel Roberts, salary.....	60 00
"	30.	To Walter D. Thurber, salary.....	10 00
"	30.	To J. L. Anderson, expense.....	6 73
"	30.	To H. E. Barnard, expense.....	27 82
"	30.	To A. W. Bruner, expense.....	36 75
"	30.	To H. J. Freeland, expense.....	21 46
"	30.	To Dr. J. N. Hurty, expense.....	86 51
"	30.	To Dr. W. F. King, expense.....	8 51
"	30.	To George Shea, expense.....	180 00
"	30.	To Walter D. Thurber, expense.....	9 84
"	30.	To Frank W. Tucker, expense.....	37 12
"	30.	To John T. Willett, expense.....	56 50
"	30.	To American Toilet Supply Co., laundry.....	5 55
"	30.	To R. L. Anderson Mfg. Co., mer- chandise.....	10 80
"	30.	To Aquos Distilled Water Co., mer- chandise.....	2 00
"	30.	To W. H. Bass Photo Co., merchandise.	56 95
"	30.	To Receivers Central Union Telephone tolls.....	8 10
"	30.	To Adams Express Co., service.....	3 96
"	30.	To American Express Co., service.....	15 88
"	30.	To Fertig & Kevers, sings.....	72 90
"	30.	To Indiana Press Clipping Service, clippings.....	10 00
"	30.	To Indpls. Telephone Co., tolls.....	2 00
"	30.	To Kipp Bros. Co., merchandise.....	1 40
"	30.	To W. K. Stewart Co., book.....	1 00
"	30.	To Western Union Telegraph Co., tolls.	1 53
"	30.	To W. B. Burford, merchandise.....	163 18
Total.....			\$19,937 57
Appropriation.....			\$20,000 00
Total expense.....			19,937 57
Reverting to general fund.....			\$62 43

INDIANA STATE BOARD OF HEALTH—LABORATORY OF HYGIENE.

For Fiscal Year, October 1, 1914, to September 30, 1915.

1914.

Oct.	9.	To J. L. Anderson, expense.....	\$16 85
"	9.	To The Wm. H. Block Co., merchandise.....	3 80
"	9.	To Joseph Gardner, merchandise.....	12 65
"	9.	To W. K. Stewart Co., merchandise.....	75
"	3.	To R. E. Springsteen, postage stamps...	100 00
"	31.	To Dr. Will Shimer, salary.....	166 66
"	31.	To Dr. Ada E. Schweitzer, salary.....	125 00
"	31.	To Miss H. M. Hooker, salary.....	60 00
"	31.	To Miss Talitha Gerlach, salary.....	50 00
"	31.	To Robt. P. Johnson, salary.....	75 00
"	31.	To Geo. M. King, salary.....	30 00
Nov.	5.	To J. L. Anderson, expense.....	7 75
"	5.	To Dr. Will Shimer, expense.....	9 70
"	5.	To Dr. Ada E. Schweitzer, expense....	2 95
"	5.	To D. Appleton & Co., book.....	3 75
"	5.	To Aquos Dist. Water Co., merchandise.....	1 00
"	5.	To W. H. Armstrong Co., merchandise.....	2 50
"	5.	To Balke & Krauss Co., merchandise..	25 00
"	5.	To Bausch & Lomb Optical Co., mer- chandise.....	22 50
"	5.	To W. B. Burford, merchandise.....	1 20
"	5.	To Adams Express Co., service.....	87
"	5.	To Wells Fargo Express Co., service..	1 43
"	5.	To Journal Medical Research, sub- scriptions.....	4 00
"	5.	To Kimble-Durand Glass Co., mer- chandise.....	115 50
"	5.	To Geo. J. Mayer Co., merchandise...	2 50
"	5.	To Pettis Dry Goods Co., merchandise.....	4 00
"	5.	To Remington Typewriter Co., repairs.....	60
"	5.	To Scientific Materials Co., merchan- dise.....	20 00
"	5.	To Spencer Lens Co., merchandise....	173 52
"	5.	To G. E. Stechert Co., journal.....	3 75
"	5.	To Central Union Telephone Co., tolls.....	1 55
"	5.	To Ward Bros. Drug Co., merchandise.....	5 10
"	5.	To Weber Drug Co., merchandise....	1 00
"	30.	To Dr. Will Shimer, salary.....	166 66
"	30.	To Dr. Ada Schweitzer, salary.....	125 00
"	30.	To Miss H. M. Hooker, salary.....	60 00
"	30.	To Miss Talitha Gerlach, salary.....	50 00
"	30.	To Robt. P. Johnson, salary.....	75 00
"	30.	To Geo. M. King, salary.....	30 00

1914.

Dec.	8.	To Aquos Dist. Water Co., merchandise.....	\$2 00
"	8.	To W. B. Burford, merchandise.....	243 02
"	8.	To American Med. Assn., subscriptions	4 00
"	8.	To Bausch & Lomb Optical Co., merchandise.....	6 41
"	8.	To Adams Express Co., service.....	25
"	8.	To American Express Co., service....	49
"	8.	To Journal Infectious Diseases, subscriptions.....	5 00
"	8.	To Rockefeller Institute, journal subscriptions.....	5 00
"	8.	To G. E. Stechert & Co., journals....	3 80
"	8.	To W. K. Stewart Co., books.....	16 10
"	8.	To Dr. Will Shimer, expense.....	16 90
"	8.	To Dr. Ada E. Schweitzer, expense...	78 81
"	8.	To J. L. Anderson, expense.....	5 30
"	8.	To Joseph Gardner, merchandise....	16 63
"	8.	To Railroad Transfer Co., freight and drayage.....	4 95
"	31.	To Dr. Will Shimer, salary.....	166 67
"	31.	To Dr. Ada E. Schweitzer, salary.....	125 00
"	31.	To Miss H. M. Hooker, salary.....	60 00
"	31.	To Miss Talitha Gerlach, salary.....	50 00
"	31.	To R. P. Johnson, salary.....	75 00
"	31.	To Geo. M. King, salary.....	30 00

1915.

Jan.	8.	To W. B. Burford, merchandise.....	60
"	8.	To American Toilet Supply Co., laundry.....	29 75
"	8.	To Balke & Krauss Co., merchandise..	69 20
"	8.	To The Druggists Circular, subscriptions.....	1 50
"	8.	To The Francis Pharmacy Co., merchandise.....	3 16
"	8.	To Fulton Office Furniture Co., merchandise.....	17 76
"	8.	To The H. Lieber Co.....	2 90
"	8.	To W. K. Stewart Co.....	2 12
"	8.	To G. E. Stechert & Co., subscriptions, 1915.....	15 75
"	8.	To Vonnegut Hardware Co., merchandise.....	65
"	8.	To Central Union Telephone Co., tolls.....	5 85
"	8.	To Dr. Will Shimer, expense.....	9 60
"	8.	To J. L. Anderson, expense.....	5 95

Total expense first quarter..... \$2,637 66

1915.

Jan.	31.	To Dr. Will Shimer, salary.....	\$166 67
"	31.	To Dr. Ada E. Schweitzer, salary.....	125 00
"	31.	To Miss H. M. Hooker, salary.....	60 00
"	31.	To Miss Talitha Gerlach, salary.....	50 00
"	31.	To Robt. P. Johnson, salary.....	75 00
Feb.	5.	To American Pub. Health Assn., dues and subscriptions.....	5 00
"	5.	To Aquos Dist. Water Co., merchandise	3 25
"	5.	To W. H. Armstrong Co., merchandise	2 50
"	5.	To Citizens Gas Co., merchandise....	33
"	5.	To Harmon & Hall, merchandise.....	2 92
"	5.	To Freaney Bros., heating plant.....	143 00
"	5.	To Ben Garvin, merchandise.....	6 10
"	5.	To J. B. Lippincott Co., book.....	4 00
"	5.	To Pettis Dry Goods Co., merchandise.	9 12
"	5.	To Remington Typewriter Co., mer- chandise.....	5 00
"	5.	To W. K. Stewart Co., merchandise...	1 68
"	5.	To G. E. Stechert & Co., books.....	15 25
"	5.	To Receivers Cent. Union Telephone, tolls.....	40
"	5.	To Dr. Will Shimer, expense.....	9 00
"	5.	To Dr. Ada E. Schweitzer, expense....	2 85
"	5.	To J. L. Anderson, expense.....	5 88
"	28.	To Dr. Will Shimer, salary.....	166 66
"	28.	To Dr. Ada E. Schweitzer, salary.....	125 00
"	28.	To Miss H. M. Hooker, salary.....	60 00
"	28.	To Miss Talitha Gerlach, salary.....	50 00
"	28.	To Robt. P. Johnson, salary.....	75 00
Mar.	3.	To R. E. Springsteen, P. M., stamps..	100 00
"	5.	To Dr. Will Shimer, labor.....	6 00
"	5.	To J. L. Anderson, expense.....	5 55
"	5.	To Aquos Dist. Water Co., merchandise	1 50
"	5.	To W. H. Armstrong Co., merchandise.	15 00
"	5.	To Kimble Durand Glass Co., mer- chandise.....	15 00
"	5.	To Geo. J. Mayer Co., merchandise...	5 50
"	5.	To Pettis Dry Goods Co., merchandise.	6 03
"	5.	To Railroad Transfer Co., drayage...	83
"	5.	To G. E. Stechert & Co., journals and subscriptions.....	22 25
"	5.	To Central Union Telephone Co., tolls.	1 55
"	31.	To Dr. Will Shimer, salary.....	166 67
"	31.	To Dr. Ada E. Schweitzer, salary.....	125 00
"	31.	To Miss H. M. Hooker, salary.....	60 00
"	31.	To Miss Talitha Gerlach, salary.....	50 00
"	31.	To Robt. P. Johnson, salary.....	75 00
April	9.	To American Medical Assn., reprints.	5 00
"	9.	To American Toilet Supply Co., laun- dry.....	23 70

1915.

April	9.	To Aquos Dist. Water Co., merchandise	\$2 00
"	9.	To Adams Express Co., service.....	50
"	9.	To The Johns Hopkins Press, bulletins.	2 00
"	9.	To Dr. Will Shimer, expense.....	10 17
"	9.	To Dr. Ada E. Schweitzer, expense....	1 25
"	9.	To J. L. Anderson, expense.....	6 40
"	9.	To Arthur H. Thomas Co., merchandise	239 87
"	9.	To Jour. Med. Research, subscriptions.	4 00

Total second quarter..... \$2,120 38

April	30.	To Dr. Will Shimer, salary.....	\$166 67
"	30.	To Dr. Ada E. Schweitzer, salary.....	125 00
"	30.	To Miss H. M. Hooker, salary.....	60 00
"	30.	To Miss Talitha Gerlach, salary.....	50 00
"	30.	To Robt. P. Johnson, salary.....	75 00
May	7.	To Jas. L. Anderson, expense.....	3 30
"	7.	To Archibald C. Diack, merchandise..	5 00
"	7.	To Adams Express Co., service.....	50
"	7.	To Fulton Office Furniture Co., merchandise.....	31 50
"	7.	To Indianapolis Reduction Co., removing garbage.....	4 50
"	7.	To H. L. Sanders, merchandise.....	23 40
"	7.	To Dr. Will Shimer, expense.....	5 00
"	31.	To Dr. Will Shimer, salary.....	166 66
"	31.	To Dr. Ada E. Schweitzer, salary.....	125 00
"	31.	To Miss H. M. Hooker, salary.....	60 00
"	31.	To Miss Talitha Gerlach, salary.....	50 00
"	31.	To Robt. P. Johnson, salary.....	75 00
June	8.	To J. L. Anderson, expense.....	10 53
"	8.	To W. H. Armstrong Co., merchandise	3 40
"	8.	To Aquos Dist. Water Co., merchandise	2 00
"	8.	To J. H. Baer, guinea pigs.....	2 70
"	8.	To W. B. Burford, merchandise.....	80 48
"	8.	To H. J. Borger, repairs.....	48 50
"	8.	To Central Union Telephone Co., tolls.	2 05
"	8.	To Chicago Medical Book Co., book..	2 00
"	8.	To Citizens Gas Co., gas and fittings..	7 21
"	8.	To The Francis Pharmacy Co., merchandise.....	25 60
"	8.	To The Harris Transfer Co., drayage..	24 00
"	8.	To Lilly Stalanker, merchandise.....	2 45
"	8.	To Spencer Lens Co., merchandise....	10 32
"	8.	To G. E. Steckert & Co., balance subscriptions.....	1 20
"	8.	To Dr. Will Shimer, expense.....	21 00
"	21.	To Am. Journal Public Health, dues and subscriptions.....	5 00
"	21.	To Balke & Krauss Co., merchandise..	1 38

1915.

June	21.	To The Labert Gall Co., merchandise.	\$80 00
"	21.	To Joseph Gardner, merchandise.....	2 62
"	21.	To Harmon & Hall, merchandise.....	2 98
"	21.	To The Harris Transfer Co., drayage..	40 10
"	21.	To Hatfield Electric Co., merchandise.	2 25
"	21.	To Mrs. W. M. Herriott & Son, merchandise.....	2 00
"	21.	To Holt Ice & Cold Storage Co., merchandise.....	10 00
"	21.	To Indianapolis Telephone Co., rental.	3 15
"	21.	To H. W. Johns-Manville Co., material and labor.....	15 25
"	21.	To The Marietta Glass Mfg. Co., merchandise.....	15 00
"	21.	To Stewart-Carey Glass Co., merchandise.....	15 79
"	21.	To Dr. Will Shimer, expense.....	17 50
"	21.	To H. P. Wasson Co., merchandise....	1 00
"	30.	To Dr. Will Shimer, salary.....	166 67
"	30.	To Dr. Ada E. Schweitzer, salary.....	125 00
"	30.	To Miss H. M. Hooker, salary.....	60 00
"	30.	To Miss Talitha Gerlach, salary.....	50 00
"	30.	To Robt. P. Johnson, salary.....	75 00
July	7.	To J. L. Anderson, expense.....	6 75
"	7.	To American Toilet Supply Co., laundry.....	20 65
"	7.	To Aquos Dist. Water Co., merchandise	2 00
"	7.	To Central Union Telephone Co., rental and tolls.....	13 95
"	7.	To Balke & Krauss Co., merchandise..	120 50
"	7.	To The Albert Gall Co., merchandise..	158 59
"	7.	To Joseph Gardner, merchandise.....	5 88
"	7.	To Miss H. M. Hooker, expense.....	1 25
"	7.	To Indianapolis Telephone Co., rental.	13 50
"	7.	To Indianapolis Tent & Awning Co., merchandise.....	24 00
"	7.	To Puryear & Porter, drayage.....	3 75
"	7.	To W. K. Stewart Co., book.....	1 50
"	7.	To Dr. Will Shimer, expense.....	47 60
"	31.	To Dr. Will Shimer, salary.....	166 66
"	31.	To Dr. Ada E. Schweitzer, salary.....	125 00
"	31.	To Miss H. M. Hooker, salary.....	60 00
"	31.	To Miss Talitha Gerlach, salary.....	50 00
"	31.	To Robt. P. Johnson, salary.....	75 00
Aug.	4.	To J. L. Anderson, expense.....	1 00
"	4.	To Wm. G. Adams, merchandise.....	79 68
"	4.	To Citizens Gas Co., merchandise....	8 14
"	4.	To The Francis Pharmacy Co., merchandise.....	4 00
"	4.	To Joseph Gardner, merchandise.....	19 38

1915.

Aug.	4.	To The Pettis Dry Goods Co., merchandise.....	\$14 39
"	4.	To A. M. Sargent-Peary Co., merchandise.....	2 90
"	4.	To John S. Spann & Co., rent.....	27 00
"	4.	To Spencer Lens Co., merchandise....	6 26
"	4.	To Dr. Ada E. Schweitzer, expense....	140 83
"	4.	To Fertig & Kevers, sign.....	20 00
"	4.	To Central Union Telephone Co., tolls.	1 05
"	4.	To American Express Co., service.....	30
"	4.	To Adams Express Co., service.....	1 47
"	4.	To Aquos Dist. Water Co., merchandise	2 00
"	4.	To Fulton Office Furniture, merchandise.....	24 15
"	4.	To Edgar Grabhorn, guinea pigs.....	1 20
"	4.	To Hatfield Electric, merchandise....	1 07
"	4.	To Pittman-Moore Co., merchandise.	2 60
"	4.	To Dr. Will Shimer, expense.....	1 40
"	11.	To R. E. Springsteen, P. M., postage stamps.....	100 00
"	31.	To Dr. Will Shimer, salary.....	166 67
"	31.	To Dr. Ada E. Schweitzer, salary....	125 00
"	31.	To Miss H. M. Hooker, salary.....	60 00
"	31.	To Miss Talitha Gerlach, salary.....	50 00
"	31.	To Robt. P. Johnson, salary.....	75 00
Sept.	7.	To Wm. H. Armstrong Co., merchandise.....	15 00
"	7.	To P. Blakiston's Son & Co., book....	1 75
"	7.	To Citizens Gas Co., Gas.....	6 71
"	7.	To Comstock Publishing Co., book....	2 20
"	7.	To Harmon & Hall, merchandise.....	16 44
"	7.	To Hatfield Electric Co., merchandise.	8 47
"	7.	To Holt Ice & Cold Storage Co., merchandise.....	10 00
"	7.	To Adams Express Co., service.....	27
"	7.	To American Express Co., service....	85
"	7.	To Fulton Office Furniture Co., merchandise.....	40 15
"	7.	To Kimble-Durand Glass Co., merchandise.....	18 50
"	7.	To Lea & Febirger, books.....	7 75
"	7.	To J. B. Lippincott Co., books.....	4 00
"	7.	To The McMillan Co., books.....	3 80
"	7.	To Medico-Dental Pub. Co., books...	6 00
"	7.	To Pettis Dry Goods Co., merchandise.	22 97
"	7.	To Remington Typewriter Co., merchandise.....	7 00
"	7.	To J. H. Reed, merchandise.....	5 00
"	7.	To E. H. Sargent & Co., merchandise..	15 00
"	7.	To W. B. Saunders & Co., book.....	6 00

1915.

Sept.	7.	To Scientific Materials Co., merchandise.....	\$93 12
"	7.	To G. E. Stechert, books.....	6 22
"	7.	To Vonnegut Hardware Co., merchandise.....	1 35
"	7.	To W. F. Stewart Co., books.....	52 56
"	7.	To Wm. Wood & Co., Pubs., books...	2 75
"	7.	To John Wiley & Sons, books.....	4 00
"	7.	To Western Union Telegraph Co., tolls.	3 63
"	7.	To Dr. Will Shimer, expense.....	27 20
"	7.	To Jas. L. Anderson, expense.....	5 60
"	7.	To The Francis Pharmacy Co., merchandise.....	16 28
"	15.	To John S. Spann & Co., rent.....	18 00
"	30.	To Dr. Will Shimer, salary.....	166 67
"	30.	To Dr. Ada E. Schweitzer, salary.....	125 00
"	30.	To Miss H. M. Hooker, salary.....	60 00
"	30.	To Miss Talitha Gerlach, salary.....	50 00
"	30.	To Robt. P. Johnson, salary.....	75 00
"	30.	To Jas. L. Anderson, expense.....	7 00
"	30.	To American Toilet Supply Co., laundry.....	21 30
"	30.	To R. W. Abbett, merchandise.....	3 50
"	30.	To W. B. Burford, merchandise.....	62 20
"	30.	To Citizens Gas Co., gas.....	6 82
"	30.	To Freaney Bros.....	75 00
"	30.	To Fulton Office Furniture Co., merchandise.....	18 80
"	30.	To Improved Mailing Case Co., merchandise.....	67 50
"	30.	To Indianapolis Light and Heat Co., merchandise.....	17 55
"	30.	To Journal Med. Research, subscriptions.....	4 00
"	30.	To Railroad Transfer Co., freight and drayage.....	4 76
"	30.	To Central Union Telephone Co., tolls.	1 70
"	30.	To W. B. Saunders & Co., book.....	3 00
"	30.	To W. K. Stewart Co., book.....	3 75
"	30.	To Spencer Lens Co., merchandise....	8 25
"	30.	To G. E. Stechert & Co., journals.....	4 15
"	30.	To Dr. Will Shimer, expense.....	53 86
"	30.	To Dr. Ada E. Schweitzer, expense...	3 50
"	30.	To Arthur H. Thomas Co., merchandise	119 36
"	30.	To Western Union Telegraph Co., tolls.....	1 50
"	30.	To Kimble-Durand Glass Co., merchandise.....	18 50
"	30.	To E. H. Sargent Co., merchandise....	15 00

 Total third and fourth quarter. \$5,218 92

RECAPITULATION.

Appropriation.....		\$10,000 00
Expense first quarter.....	\$2,637 66	
Expense second quarter.....	2,120 38	
Expense third and fourth quarter.....	5,218 92	
	<hr/>	
Total.....		\$9,976 96
		<hr/>
Total reverting to general fund.....		\$23 04

FINANCIAL STATEMENT.

PURE FOOD AND DRUG LABORATORY.

For Fiscal Year, October 1, 1914, to September 30, 1915.

1914.

Oct.	9.	To F. H. Langsenkamp, merchandise . .	\$10 00
"	9.	To Municipal Journal, subscriptions . .	3 00
"	9.	To Pittman-Moore Co., merchandise . .	274 85
"	3.	To R. E. Springsteen, postage stamps . .	100 00
"	31.	To H. E. Barnard, salary	208 33
"	31.	To H. E. Bishop, salary	150 00
"	31.	To W. D. McAbee, salary	150 00
"	31.	To G. C. Thomas, salary	75 00
"	31.	To Miss G. M. Stapp, salary	75 00
"	31.	To Floyd Huff, salary	30 00
"	31.	To A. W. Bruner, salary	125 00
"	31.	To B. W. Cohn, salary	125 00
"	31.	To F. W. Tucker, salary	125 00
"	31.	To C. W. Hutchens, salary	125 00
"	31.	To Richard White, salary	125 00
"	31.	To J. L. Anderson, salary	8 33
Nov.	5.	To H. E. Barnard, expense	75 09
"	5.	To A. W. Bruner, expense	75 08
"	5.	To B. W. Cohn, expense	51 27
"	5.	To F. W. Tucker, expense	96 65
"	5.	To C. L. Hutchens, expense	74 78
"	5.	To Richard White, expense	90 53
"	5.	To Adams Express Co., service	1 35
"	5.	To American Express Co., service	6 49
"	5.	To E. J. Gausepohl & Co., Merchandise	3 50
"	5.	To F. H. Langsenkamp, merchandise . .	7 86
"	5.	To Indianapolis Paint & Color Co., merchandise	2 06
"	5.	To W. K. Stewart Co., book	1 35
"	5.	To Central Union Telephone Co., tolls .	2 35
"	5.	To Western Union Telegraph Co., tolls .	4 61
"	5.	To A. Kiefer Drug Co., merchandise . .	4 63
"	30.	To H. E. Barnard, salary	208 33
"	30.	To H. E. Bishop, salary	150 00
"	30.	To W. D. McAbee, salary	150 00
"	30.	To G. C. Thomas, salary	75 00
"	30.	To Miss Gail M. Stapp, salary	75 00
"	30.	To Floyd Huff, salary	30 00
"	30.	To A. W. Bruner, salary	125 00
"	30.	To B. W. Cohn, salary	125 00

1914.

Nov.	30.	To F. W. Tucker, salary.....	\$125 00
"	30.	To C. L. Hutchens, salary.....	125 00
"	30.	To Richard White, salary.....	125 00
"	30.	To J. L. Anderson, salary.....	8 33
Dec.	8.	To H. E. Bishop, expense.....	59 90
"	8.	To A. W. Bruner, expense.....	45 50
"	8.	To B. W. Cohn, expense.....	17 13
"	8.	To F. W. Tucker, expense.....	48 30
"	8.	To C. L. Hutchens, expense.....	64 55
"	8.	To Richard White, expense.....	33 70
"	8.	To W. B. Burford, merchandise.....	105 91
"	8.	To Receivers, Central Union Tele- phone Co., tolls.....	5 85
"	8.	To Adams Express Co., service.....	2 89
"	8.	To American Express Co., service....	1 36
"	8.	To W. K. Stewart Co., merchandise...	7 65
"	31.	To H. E. Barnard, salary.....	208 34
"	31.	To H. E. Bishop, salary.....	150 00
"	31.	To W. D. McAbee, salary.....	150 00
"	31.	To G. C. Thomas, salary.....	75 00
"	31.	To Miss Gail M. Stapp, salary.....	75 00
"	31.	To Floyd Huff, salary.....	30 00
"	31.	To A. W. Bruner, salary.....	125 00
"	31.	To B. W. Cohn, salary.....	125 00
"	31.	To F. W. Tucker, salary.....	125 00
"	31.	To C. L. Hutchens, salary.....	125 00
"	31.	To Richard White, salary.....	125 00
"	31.	To J. L. Anderson, salary.....	8 34

1915.

Jan.	8.	To H. E. Barnard, expense.....	18 45
"	8.	To A. W. Bruner, expense.....	54 90
"	8.	To B. W. Cohn, expense.....	8 10
"	8.	To C. L. Hutchens, expense.....	39 35
"	8.	To F. W. Tucker, expense.....	49 25
"	8.	To Richard White, expense.....	44 10
"	8.	To American Toilet Supply Co., Laun- dry.....	3 75
"	8.	To W. H. Bass Photo Co., merchandise	6 25
"	8.	To Bessire & Co., merchandise.....	2 00
"	8.	To The Chemical Engineer, subscrip- tions.....	2 00
"	8.	To The Commercial Distilling Co., merchandise.....	28 51
"	8.	To Adams Express Co., service.....	2 19
"	8.	To American Express Co., service....	50
"	8.	To Wells-Fargo Express Co., service..	25
"	8.	To Harvard University Press, book...	50
"	8.	To Indiana Typewriter & Supply Co., repairs.....	85

1915.

Jan.	8.	To The H. Lieber Co., merchandise...	\$3 84
"	8.	To Postal Telegraph Cable Co., tolls...	1 02
"	8.	To Henry Troemer, merchandise.....	48 58
"	8.	To W. U. Telegraph Co., tolls.....	1 25
"	31.	To H. E. Barnard, salary.....	208 33
"	31.	To H. E. Bishop, salary.....	150 00
"	31.	To W. D. McAbee, salary.....	150 00
"	31.	To G. C. Thomas, salary.....	75 00
"	31.	To Miss G. M. Stapp, salary.....	75 00
"	31.	To Floyd Huff, salary.....	30 00
"	31.	To A. W. Bruner, salary.....	125 00
"	31.	To B. W. Cohn, salary.....	125 00
"	31.	To F. W. Tucker, salary.....	125 00
"	31.	To C. L. Hutchens, salary.....	125 00
"	31.	To Richard White, salary.....	125 00
"	31.	To J. L. Anderson, salary.....	8 33
Feb.	5.	To H. E. Barnard, expense.....	41 85
"	5.	To A. W. Bruner, expense.....	62 55
"	5.	To B. W. Cohn, expense.....	9 77
"	5.	To F. W. Tucker, expense.....	58 63
"	5.	To C. L. Hutchens, expense.....	69 82
"	5.	To Richard White, expense.....	39 77
"	5.	To W. B. Burford, merchandise.....	43 87
"	5.	To Francis Pharmacy Co., merchandise	5 00
"	5.	To Wells-Fargo Express Co., service..	25
"	5.	To American Express Co., service....	82
"	5.	To Railroad Transfer Co., freight and drayage.....	1 05
"	5.	To Central Union Telephone Co., tolls.	35
"	5.	To Indianapolis Telephone Co., tolls..	1 10
"	5.	To Western Union Telegraph Co., tolls.	91
"	16.	To R. E. Springsteen, postage.....	50 00
"	28.	To H. E. Barnard, salary.....	208 33
"	28.	To H. E. Bishop, salary.....	150 00
"	28.	To W. D. McAbee, salary.....	150 00
"	28.	To G. C. Thomas, salary.....	75 00
"	28.	To Miss G. M. Stapp, salary.....	75 00
"	28.	To Floyd Huff, salary.....	30 00
"	28.	To A. W. Bruner, salary.....	125 00
"	28.	To B. W. Cohn, salary.....	125 00
"	28.	To F. W. Tucker, salary.....	125 00
"	28.	To C. E. Hutchens, salary.....	125 00
"	28.	To Richard White, salary.....	125 00
"	28.	To J. L. Anderson, salary.....	8 33
Mar.	5.	To H. E. Barnard, expense.....	35 08
"	5.	To A. W. Bruner, expense.....	72 89
"	5.	To B. W. Cohn, expense.....	35 89
"	5.	To F. W. Tucker, expense.....	54 89
"	5.	To C. L. Hutchens, expense.....	56 29
"	5.	To Richard White, expense.....	67 23

1915.

Mar.	5.	To Balke & Krauss Co., merchandise.	\$6 33
"	5.	To The Wm. H. Block Co., merchandise	4 03
"	5.	To American Express Co., service....	89
"	5.	To Wells Fargo Express Co., service....	2 50
"	5.	To Fertig & Kever, signs.....	4 00
"	5.	To Gibson & Read, labor.....	12 00
"	5.	To Chas. Mayer & Co., merchandise..	6 50
"	5.	To Charles W. Read, labor.....	4 50
"	5.	To Staley & Crabb, labor.....	9 10
"	5.	To G. E. Stechert & Co. journals and subscriptions.....	18 85
"	5.	To Central Union Telephone Co., tolls.	1 30
"	5.	To Postal Telegraph Cable Co., tolls..	25
"	5.	To H. E. Barnard, expense:.....	37 19
"	31.	To H. E. Barnard, salary.....	208 34
"	31.	To H. E. Bishop, salary.....	150 00
"	31.	To W. D. McAbee, salary.....	150 00
"	31.	To G. C. Thomas, salary.....	75 00
"	31.	To Miss G. M. Stapp, salary.....	75 00
"	31.	To Floyd Huff, salary.....	30 00
"	31.	To A. W. Bruner, salary.....	125 00
"	31.	To B. W. Cohn, salary.....	125 00
"	31.	To F. W. Tucker, salary.....	125 00
"	31.	To C. L. Hutchens, salary.....	125 00
"	31.	To Richard White, salary.....	125 00
"	31.	To J. L. Anderson, salary.....	8 34
April	9.	To H. E. Barnard, expense.....	17 08
"	9.	To A. W. Bruner, expense.....	67 90
"	9.	To B. W. Cohn, expense.....	67 12
"	9.	To F. W. Tucker, expense.....	64 32
"	9.	To C. L. Hutchens, expense.....	66 84
"	9.	To Richard White, expense.....	55 89
"	9.	To American Toilet Supply Co., laun- dry.....	3 75
"	9.	To Balke & Krauss Co., merchandise..	3 50
"	9.	To W. B. Burford, merchandise.....	10 50
"	9.	To Burnett-Lewis Lumber Co., mer- chandise.....	3 25
"	9.	To Central Union Telephone Co., tolls.	3 55
"	9.	To Adams Express Co., service.....	2 61
"	9.	To American Express Co., service....	1 00
"	9.	To E. J. Gausepohl & Co., merchandise	12 50
"	9.	To Indiana Typewriter & Supply Co., merchandise.....	6 75
"	9.	To F. H. Langsenkamp, repairs.....	4 50
"	9.	To C. T. Nankervis Co., merchandise..	1 50
"	9.	To Railroad Transfer Co., freight and drayage.....	3 02
"	9.	To Chas. W. Read, labor.....	5 00
"	9.	To Schnull & Co., merchandise.....	3 60

1915.

April	9.	To The Star Store, merchandise.....	\$2 00
"	9.	To Vonnegut Hardware Co., merchandise.....	6 57
"	17.	To R. E. Springsteen, P. M., postage stamps.....	100 00
"	30.	To H. E. Barnard, salary.....	208 33
"	30.	To H. E. Bishop, salary.....	150 00
"	30.	To W. D. McAbee, salary.....	150 00
"	30.	To G. C. Thomas, salary.....	75 00
"	30.	To Miss G. M. Stapp, salary.....	75 00
"	30.	To Floyd Huff, salary.....	30 00
"	30.	To A. W. Bruner, salary.....	125 00
"	30.	To B. W. Cohn, salary.....	125 00
"	30.	To F. W. Tucker, salary.....	125 00
"	30.	To C. L. Hutchens, salary.....	125 00
"	30.	To Richard White, salary.....	125 00
"	30.	To J. L. Anderson, salary.....	8 33
May	7.	To H. E. Barnard, salary.....	10 41
"	7.	To A. W. Bruner, salary.....	80 61
"	7.	To B. W. Cohn, salary.....	66 67
"	7.	To F. W. Tucker, salary.....	72 98
"	7.	To C. L. Hutchens, salary.....	47 33
"	7.	To Richard White, salary.....	71 95
"	7.	To W. B. Burford, merchandise.....	141 37
"	7.	To Adams Express Co., service.....	1 80
"	7.	To American Express Co., service....	2 35
"	7.	To B. H. Hermann & Co., merchandise	3 00
"	7.	To The Logansport Oxygen Co., merchandise.....	3 00
"	7.	To Pittman-Moore Co., merchandise..	36 56
"	7.	To P. G. Schwarz, merchandise.....	37 00
"	7.	To L. E. Morrison Co., merchandise..	9 70
"	31.	To H. E. Barnard, salary.....	208 33
"	31.	To H. E. Bishop, salary.....	150 00
"	31.	To W. D. McAbee, salary.....	150 00
"	31.	To G. C. Thomas, salary.....	75 00
"	31.	To Miss Gail M. Stapp, salary.....	75 00
"	31.	To Floyd Huff, salary.....	30 00
"	31.	To A. W. Bruner, salary.....	125 00
"	31.	To B. W. Cohn, salary.....	125 00
"	31.	To F. W. Tucker, salary.....	125 00
"	31.	To C. L. Hutchens, salary.....	125 00
"	31.	To Richard White, salary.....	125 00
"	31.	To Jas. L. Anderson, salary.....	8 33
June	8.	To A. W. Bruner, expense.....	84 90
"	8.	To B. W. Cohn, expense.....	63 80
"	8.	To F. W. Tucker, expense.....	58 86
"	8.	To C. L. Hutchens, expense.....	28 38
"	8.	To Richard White, expense.....	72 65
"	8.	To The Wm. H. Block Co., merchandise	4 03

1915.

June	8.	To W. B. Burford, merchandise.....	\$44 35
"	8.	To Adams Express Co., service.....	1 28
"	8.	To American Express Co., service....	75
"	8.	To The Francis Pharmacy Co., merchandise.....	5 00
"	8.	To Logansport Oxygen Co., merchandise.....	11 25
"	8.	To Pittman-Moore Co., merchandise..	31 15
"	8.	To E. H. Sargent & Co., merchandise..	70 29
"	8.	To Vonnegut Hardware Co., merchandise.....	1 40
"	8.	To Western Union Telegraph Co., tolls.	3 64
"	21.	To H. E. Bishop, expense.....	10 21
"	30.	To H. E. Barnard, salary.....	208 34
"	30.	To H. E. Bishop, salary.....	150 00
"	30.	To W. D. McAbee, salary.....	150 00
"	30.	To G. C. Thomas, salary.....	75 00
"	30.	To Miss Gail M. Stapp, salary.....	75 00
"	30.	To Floyd Huff, salary.....	30 00
"	30.	To A. W. Bruner, salary.....	125 00
"	30.	To B. W. Cohn, salary.....	125 00
"	30.	To F. W. Tucker, salary.....	125 00
"	30.	To C. L. Hutchens, salary.....	125 00
"	30.	To Richard White, salary.....	125 00
"	30.	To J. L. Anderson, salary.....	8 34
July	7.	To American Toilet Supply Co., laundry	3 75
"	7.	To W. B. Burford, merchandise.....	2 40
"	7.	To Central Union Telephone Co., tolls.	3 35
"	7.	To Adams Express Co., service.....	1 05
"	7.	To American Express Co., service.....	1 90
"	7.	To Western Union Telegraph Co., tolls.	1 39
"	7.	To H. E. Barnard, expense.....	30 78
"	7.	To A. W. Bruner, expense.....	42 95
"	7.	To B. W. Cohn, expense.....	75 01
"	7.	To F. W. Tucker, expense.....	58 15
"	7.	To C. L. Hutchens, expense.....	49 04
"	7.	To Richard White, expense Co., tolls..	84 45
"	7.	To Postal Telegraph Cable.....	51
"	31.	To H. E. Barnard, salary.....	208 33
"	31.	To H. E. Bishop, salary.....	150 00
"	31.	To W. D. McAbee, salary.....	150 00
"	31.	To G. C. Thomas, salary.....	75 00
"	31.	To Miss G. M. Stapp, salary.....	75 00
"	31.	To Floyd Huff, salary.....	30 00
"	31.	To A. W. Bruner, salary.....	125 00
"	31.	To B. W. Cohn, salary.....	125 00
"	31.	To F. W. Tucker, salary.....	125 00
"	31.	To C. L. Hutchens, salary.....	125 00
"	31.	To Richard White, salary.....	125 00
"	31.	To Jas. L. Anderson, salary.....	8 33

1915.

Aug.	4.	To H. E. Bishop, expense.....	\$6 30
"	4.	To A. W. Bruner, expense.....	29 30
"	4.	To B. W. Cohn, expense.....	8 70
"	4.	To F. W. Tucker, expense.....	48 72
"	4.	To C. L. Hutchens, expense.....	44 57
"	4.	To Richard White, expense.....	18 61
"	4.	To The Haverstick Co., binding.....	33 00
"	4.	To Pittman-Moore Co., merchandise.....	23 00
"	4.	To W. B. Burford, merchandise.....	93 81
"	4.	To B. H. Herman Co., merchandise....	3 60
"	4.	To Central Union Telephone Co., tolls.....	3 65
"	4.	To American Express Co., service....	3 64
"	4.	To Adams Express Co., service.....	57
"	19.	To R. E. Springsteen, P. M., postage stamps.....	50 00
"	31.	To H. E. Barnard, salary.....	208 33
"	31.	To H. E. Bishop, salary.....	150 00
"	31.	To W. D. McAbee, salary.....	150 00
"	31.	To C. L. Hutchens, salary.....	125 00
"	31.	To Richard White, salary.....	125 00
"	31.	To Jas. L. Anderson, salary.....	8 33
Sept.	4.	To H. E. Barnard, expense.....	204 46
"	7.	To W. B. Burford, merchandise.....	20 96
"	7.	To Adams Express Co., service.....	2 73
"	7.	To American Express Co., service....	1 05
"	7.	To Fertig & Kever, sign.....	2 65
"	7.	To C. L. Hutchens, expense.....	63 94
"	7.	To Richard White, expense.....	37 31
"	7.	To Frank H. Prunk, merchandise....	65
"	7.	To W. K. Stewart Co., books.....	7 10
"	30.	To H. E. Barnard, salary.....	208 34
"	30.	To H. E. Bishop, salary.....	150 00
"	30.	To W. D. McAbee, salary.....	150 00
"	30.	To A. W. Bruner, salary.....	125 00
"	30.	To C. L. Hutchens, salary.....	125 00
"	30.	To Richard White, salary.....	125 00
"	30.	To Jas. L. Anderson, salary.....	8 34
"	30.	To American Toilet Supply Co., laundry.....	7 80
"	30.	To W. D. McAbee, expense.....	11 80
"	30.	To C. L. Hutchens, expense.....	29 10
Total.....			\$19,985 45
Error in footing.....			36
Total.....			\$19,985 81
Appropriation.....			\$20,000 00
Expense.....			19,985 81
Reverting to general fund.....			\$14 19

INDIANA STATE BOARD OF HEALTH—WATER LABORATORY.

For Fiscal Year, October 1, 1914, to September 30, 1915.

1914

Oct.	31.	To J. C. Diggs, salary.....	\$125 00
"	31.	To Miss Mary Vestal, salary.....	50 00
"	31.	To A. R. Tucker, salary.....	30 00
"	31.	To Arthur Lockhart, salary.....	30 00
"	31.	To Phillip Brodus, salary.....	50 00
Nov.	5.	To J. C. Diggs, expense.....	64 00
"	5.	To Broeksmith & Bonoy, groceries....	5 65
"	30.	To J. C. Diggs, salary.....	125 00
"	30.	To Miss Mary Vestal, salary.....	50 00
"	30.	To A. R. Tucker, salary.....	30 00
"	30.	To A. W. Lockhart, salary.....	30 00
"	30.	To Phillip Brodus, salary.....	50 00
Dec.	8.	To John C. Diggs, expense.....	24 05
"	8.	To Allen Newman, storage of boat....	5 00
"	31.	To J. C. Diggs, salary.....	125 00
"	31.	To Miss Mary Vestal, salary.....	50 00
"	31.	To A. R. Tucker, salary.....	30 00
"	31.	To A. W. Lockhart, salary.....	30 00
"	31.	To Phillip Brodus, salary.....	50 00

1915.

Jan.	8.	To J. C. Diggs, expense.....	9 11
"	8.	To Am. Toilet Supply Co., laundry....	6 00
"	8.	To Allen Newman, storage of boat....	5 00

Total expense first quarter.....

\$973 81

Jan.	31.	To J. C. Diggs, salary.....	\$125 00
"	31.	To Miss Mary Vestal, salary.....	50 00
"	31.	To A. R. Tucker, salary.....	30 00
"	31.	To A. W. Lockhart, salary.....	30 00
"	31.	To Phillip Brodus, salary.....	50 00
Feb.	5.	To J. C. Diggs, expense.....	1 95
"	28.	To J. C. Diggs, salary.....	125 00
"	28.	To Miss Mary Vestal, salary.....	50 00
"	28.	To A. R. Tucker, salary.....	30 00
"	28.	To A. W. Lockhart, salary.....	30 00
"	28.	To Phillip Brodus, salary.....	50 00
Mar.	5.	To The H. Lieber Co., merchandise...	8 12
"	5.	To Allen Newman, boat storage.....	12 50
"	5.	To The Standard Calorimeter Co., merchandise.....	3 37
"	5.	To Vonnegut Hardware Co., mer- chandise.....	1 05
"	31.	To J. C. Diggs, salary.....	125 00
"	31.	To Miss Mary Vestal, salary.....	50 00

1915.

Mar.	31.	To A. R. Tucker, salary	\$30 00
"	31.	To A. W. Lockhart, salary	30 00
"	31.	To Phillip Brodus, salary	50 00
April	9.	To American Toilet Supply Co., laundry	5 55
"	9.	To J. C. Diggs, expense	26 82
"	9.	To Allen Newman, boat storage	5 00

Total second quarter

\$919 36

April	30.	To John C. Diggs, salary	\$125 00
"	30.	To Miss Mary Vestal, salary	50 00
"	30.	To A. R. Tucker, salary	30 00
"	30.	To A. W. Lockhart, salary	30 00
"	30.	To Phillip Brodus, salary	50 00
May	7.	To John C. Diggs, expense	13 07
"	7.	To The H. Lieber Co., merchandise	2 46
"	7.	To Allen Newman, storage of boat	5 00
"	31.	To John C. Diggs, salary	125 00
"	31.	To Miss Mary Vestal, salary	50 00
"	31.	To A. R. Tucker, salary	30 00
"	31.	To A. W. Lockhart, salary	30 00
"	31.	To Phillip Brodus, salary	50 00
June	8.	To Allen Newman, boat storage	5 00
"	8.	To Vonnegut Book Co., book	6 00
"	8.	To H. H. Thompson, freight	47 07
"	21.	To John C. Diggs, expense	54 90
"	30.	To John C. Diggs, salary	125 00
"	30.	To Miss Mary Vestal, salary	50 00
"	30.	To A. R. Tucker, salary	42 67
"	30.	To A. W. Lockhart, salary	36 00
"	30.	To H. U. Brown, Jr., salary	11 67
"	30.	To Phillip Brodus, salary	50 00
July	7.	To American Toilet Supply Co., laundry	4 05
"	7.	To J. C. Diggs, expense	136 93
"	31.	To John C. Diggs, salary	125 00
"	31.	To Miss Mary Vestal, salary	50 00
"	31.	To Albert R. Tucker, salary	50 00
"	31.	To A. W. Lockhart, salary	45 00
"	31.	To H. U. Brown, Jr., salary	25 00
"	31.	To Phillip Brodus, salary	50 00
Aug.	4.	To John C. Diggs, expense	46 30
"	4.	To J. W. Lanahan, labor	50 00
"	4.	To The H. Lieber Co., merchandise	20
"	4.	To Railroad Transportation Co., drayage	50
"	4.	To Scientific Materials Co., merchandise	168 16
"	4.	To Albert R. Tucker, expense	97 27

1915.

Aug.	31.	To John C. Diggs, salary.....	\$125 00
"	31.	To Miss Mary Vestal, salary.....	50 00
"	31.	To A. R. Tucker, salary.....	50 00
"	31.	To A. W. Lockhart, salary.....	45 00
"	31.	To H. U. Brown, Jr., salary.....	25 00
"	31.	To Phillip Brodus, salary.....	50 00
"	31.	To G. C. Thomas, salary.....	75 00
"	31.	To Miss G. M. Stapp, salary.....	75 00
"	31.	To Floyd Huff, salary.....	30 00
Sept.	7.	To J. C. Diggs, expense.....	26 25
"	7.	To A. R. Tucker, expense.....	89 51
"	7.	To American Express Co., service.....	50
"	7.	To Indianapolis Telephone Co., tolls..	80
"	7.	To The H. Lieber Co., merchandise....	4 35
"	30.	To John C. Diggs, salary.....	125 00
"	30.	To Mary Vestal, salary.....	50 00
"	30.	To A. R. Tucker, salary.....	50 00
"	30.	To A. W. Lockhart, salary.....	45 00
"	30.	To Phillip Brodus, salary.....	50 00
"	30.	To Hilton U. Brown, Jr., salary.....	4 00
"	30.	To G. C. Thomas, salary.....	75 00
"	30.	To Miss G. M. Stapp, salary.....	75 00
"	30.	To Floyd Huff, salary.....	30 00
"	30.	To John C. Diggs, expense.....	59 53
"	30.	To Adams Express Co., service.....	35
"	30.	To Indianapolis Typewriter Co., service	35
"	30.	To B. W. Cohn, expense.....	16 60
"	30.	To The H. Lieber Co., merchandise....	1 45
"	30.	To Schnull & Co., merchandise.....	88

Total expense third and fourth quarter. \$3,096 82

RECAPITULATION.

Appropriation.....	\$5,000 00
Expense first quarter.....	\$973 81
Expense second quarter.....	919 36
Expense third and fourth quarter.....	3,096 82
Total.....	<u>\$4,989 99</u>
Total reverting to general fund.....	<u>\$10 01</u>

FINANCIAL STATEMENT.

WEIGHTS AND MEASURES FUND.

For Fiscal Year, October 1, 1914, to September 30, 1915.

1914.

Oct.	31.	To H. E. Barnard, salary.....	\$83 33
"	31.	To John T. Willett, salary.....	125 00
"	31.	To Edith Hoffman, salary.....	75 00
"	31.	To J. L. Anderson, salary.....	20 83
Nov.	5.	To W. & L. E. Gurley, merchandise...	5 99
"	5.	To John T. Willett, expense.....	97 00
"	30.	To H. E. Barnard, salary.....	83 33
"	30.	To John T. Willett, salary.....	125 00
"	30.	Edith Hoffman, salary.....	75 00
"	30.	To J. L. Anderson, salary.....	20 83
Dec.	8.	John T. Willett, expense.....	83 74
"	8.	To D. H. Smith, drayage.....	22 41
"	31.	To H. E. Barnard, salary.....	83 34
"	31.	To John T. Willett, salary.....	125 00
"	31.	To Edith Hoffman, salary.....	75 00
"	31.	To J. L. Anderson, salary.....	20 84

1915.

Jan.	8.	To John T. Willett, expense.....	65 05
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Total first quarter..... \$1,186 69

Jan.	8.	To H. E. Barnard, salary.....	\$83 33
"	8.	To John T. Willett, salary.....	125 00
"	8.	To Edith Hoffman, salary.....	75 00
"	8.	To J. L. Anderson, salary.....	20 83
Feb.	5.	To W. & L. E. Gurley, merchandise...	15 75
"	5.	To John T. Willett, expense.....	76 65
"	28.	To H. E. Barnard, salary.....	83 33
"	28.	To John T. Willett, salary.....	125 00
"	28.	To Edith Hoffman, salary.....	75 00
"	28.	To J. L. Anderson, salary.....	20 83
Mar.	5.	To John T. Willett, expense.....	80 15
"	5.	To Adams Express Co., service.....	5 23
"	5.	To Eimer & Amend, merchandise.....	7 80
"	5.	To E. J. Gausepohl & Co., merchandise	18 00
"	5.	To W. & L. E. Gurley, merchandise...	7 64
"	31.	To H. E. Barnard, salary.....	83 34
"	31.	To John T. Willett, salary.....	125 00
"	31.	To Edith Hoffman, salary.....	75 00
"	31.	To J. L. Anderson, salary.....	20 84

1915.

April	9.	To W. B. Burford, merchandise.....	\$7 41
"	9.	To W. & L. E. Gurley, merchandise...	13 85
"	9.	To John T. Willett, expense.....	61 52

Total second quarter..... \$1,206 50

April	30.	To H. E. Barnard, salary.....	\$83 33
"	30.	To John T. Willett, salary.....	125 00
"	30.	To Edith Hoffman, salary.....	75 00
"	30.	To J. L. Anderson, salary.....	20 83
May	7.	To John T. Willett, expense.....	53 30
"	31.	To H. E. Barnard, salary.....	83 33
"	31.	To John T. Willett, salary.....	125 00
"	31.	To Edith Hoffman, salary.....	75 00
"	31.	To J. L. Anderson, salary.....	20 83
June	8.	To John T. Willett, expense.....	97 31
"	21.	To John T. Willett, balance on expense.	29 95
"	30.	To H. E. Barnard, salary.....	83 34
"	30.	To John T. Willett, salary.....	125 00
"	30.	To Edith Hoffman, salary.....	75 00
"	30.	To J. L. Anderson, salary.....	20 84
July	7.	To John T. Willett, expense.....	69 09
"	31.	To H. E. Barnard, salary.....	83 33
"	31.	To John T. Willett, salary.....	125 00
"	31.	To Edith Hoffman, salary.....	75 00
"	31.	To J. L. Anderson, salary.....	20 83
Aug.	4.	To John T. Willett, expense.....	64 33
"	4.	To D. H. Smith, drayage.....	9 44
"	30.	To H. E. Barnard, salary.....	83 33
"	30.	To John T. Willett, salary.....	125 00
"	30.	To Edith Hoffman, salary.....	75 00
"	30.	To J. L. Anderson, salary.....	20 83
"	30.	To F. W. Tucker, salary.....	125 00
"	30.	To B. W. Cohn, salary.....	125 00
Sept.	7.	To B. W. Cohn, expense.....	6 64
"	7.	To John T. Willett, expense.....	65 68
"	7.	To D. H. Smith, drayage.....	1 50
"	30.	To H. E. Barnard, salary.....	83 34
"	30.	To John T. Willett, salary.....	125 00
"	30.	To Edith Hoffman, salary.....	75 00
"	30.	To J. L. Anderson, salary.....	20 84
"	30.	To Bert W. Cohn, salary.....	125 00
"	30.	To American Express Co., service.....	5 06
"	30.	To Fertig & Kevers, signs.....	2 50

Total third and fourth quarter..... \$2,604 80

Appropriation.....	\$5,000 00
Total expense.....	4,997 99

Reverting to general fund..... \$2 01

COLD STORAGE FUND.

1914.		
Dec. 19.	To cash for inspection and license.....	\$430 00
1915		
Jan. 15.	To cash for inspection and license.....	10 00
May 17.	To cash for inspection and license.....	240 00
Aug. 1.	To cash for inspection and license.....	90 00
Aug. 11.	To cash for inspection and license.....	20 00
Sept. 21.	To cash for inspection and license.....	30 00
Sept. 24.	To cash for inspection and license.....	10 00
Total received.....		<u>\$430 00</u>
1915.		
Aug. 31.	To A. W. Bruner, salary.....	\$125 00
Sept. 7.	To A. W. Bruner, expense.....	57 22
Sept. 7.	To F. W. Tucker, expense.....	70 04
Sept. 7.	To Frank W. Tucker, salary.....	125 00
Sept. 7.	To Richard White, expense.....	48 22
Total expense.....		<u>\$425 48</u>
Total amount received.....		\$430 00
Total amount expended.....		<u>425 48</u>
Reverting to general fund.....		<u>\$4 52</u>

QUARTERLY BOARD MEETINGS.

1914-1915.		
Oct. 9.	To board meeting.....	\$40 00
Jan. 8.	To board meeting.....	40 00
April 8.	To board meeting.....	40 00
July 2.	To board meeting.....	40 00
Total for fiscal year 1914-1915.....		<u>\$160 00</u>

INDIANA STATE BOARD OF HEALTH—HYDROPHOBIA FUND.

For Fiscal Year, October 1, 1914, to September 30, 1915.

1914	Appropriation (overdrawn).....	\$93 92
Oct. 9.	To J. L. Anderson, railroad fare.....	7 20
" 9.	To Lambert Hammond, room and board.....	5 00
" 9.	To Mrs. Jas. A. Millikan, board.....	9 00
" 9.	To Hotel Metropole, room.....	9 00

1914.

Oct.	9.	To Central Union Telephone Co., rental.....	\$13 50
"	3.	To R. E. Springsteen, postage stamps..	12 00
"	31.	To Dr. W. V. Boyle, salary.....	125 00
"	31.	To Miss Etta Dolan, salary.....	55 00
"	31.	To Jas. L. Anderson, salary.....	12 50
Nov.	5.	To The Francis Pharmacy, merchandise	6 57
"	5.	To Mrs. Emma Greiner, labor.....	3 00
"	5.	To Indiana Reduction Co., service....	4 50
"	5.	To J. S. Spann & Co., rent.....	25 00
"	5.	To Western Union Telegraph Co., tolls.	2 00
"	23.	To J. L. Anderson, cash and railroad fares.....	70 89
"	23.	To Mrs. Katie Griffin, rooms.....	7 50
"	23.	To Hotel Metropole, rooms.....	4 00
"	23.	To Johnston & Robinson, board.....	9 40
"	30.	To Dr. W. V. Boyle, salary.....	125 00
"	30.	To Miss Etta Dolan, salary.....	55 00
"	30.	To Mrs. Emma Greiner, salary.....	3 21
"	30.	To J. L. Anderson, salary.....	12 50
Dec.	8.	To Aquos Dist. Water Co., merchandise	2 25
"	8.	To W. B. Burford, merchandise.....	7 86
"	8.	To Francis Pharmacy, merchandise....	2 55
"	8.	To Klee & Coleman, merchandise.....	2 50
"	8.	To John S. Spann & Co., rent.....	25 00
"	8.	To J. L. Anderson, railroad fares.....	19 00
"	8.	To Hotel Metropole, rooms.....	8 00
"	8.	To M. F. Johnston, board.....	14 00
"	8.	To Citizens Gas Co., gas.....	33
"	31.	To Dr. W. V. Boyle, salary.....	125 00
"	31.	To Miss Etta Dolan, salary.....	55 00
"	31.	To J. L. Anderson, salary.....	12 50
"	31.	To Mrs. Emma Greiner, salary.....	5 00

1915.

Jan.	8.	To American Toilet Supply Co., laundry.....	8 05
"	8.	To Citizens Gas Co., gas.....	33
"	8.	To Fulton Office Furniture Co., merchandise.....	17 76
"	8.	To C. W. Meikel Co., merchandise....	2 25
"	8.	To John S. Spann & Co., rent.....	25 00
"	8.	To J. L. Anderson, railroad fares.....	17 30
"	8.	To Mrs. M. C. Miller, room and board.	14 00
"	8.	To Mrs. Rachel Brunson, room and board.....	21 00
"	-8.	To Receiver Central Union Telephone Co., rent.....	13 50

Total first quarter.....

\$1,068 87

1915.

Jan.	31.	Dr. W. V. Boyle, salary.....	\$125 00
"	31.	To Miss Etta M. Dolan, salary.....	55 00
"	31.	To J. L. Anderson, salary.....	12 50
"	31.	To Mrs. Emma Greiner, salary.....	5 00
Feb.	5.	Dr. W. V. Boyle, expense.....	2 20
"	5.	To J. L. Anderson, railroad fares.....	8 40
"	5.	Aquos Dist. Water Co., merchandise...	1 00
"	5.	To Remington Typewriter Co., merchandise.....	7 00
"	5.	To John S. Spann & Co., rent.....	25 00
"	5.	To Western Union Telegraph Co., tolls.	1 53
"	28.	To Dr. W. V. Boyle, salary.....	125 00
"	28.	To Miss Etta M. Doyle, salary.....	55 00
"	28.	To J. L. Anderson, salary.....	12 50
"	28.	To Mrs. Emma Greiner, salary.....	5 00
Mar.	3.	To R. E. Springsteen, postage stamps.	15 00
"	5.	To J. L. Anderson, railroad fares.....	30 95
"	5.	To Mrs. Hattie Cooper, room and board	18 00
"	5.	To Citizens Gas Co., gas.....	22
"	5.	To M. F. Johnston, board.....	49 60
"	5.	To Hotel Metropole, rooms.....	30 00
"	5.	To Pettis Dry Goods Co., merchandise.	3 06
"	5.	To John S. Spann & Co., rent.....	25 00
"	5.	To Western Union Telegraph Co., tolls	1 12
"	31.	To Dr. W. V. Boyle, salary.....	125 00
"	31.	To Miss Etta M. Dolan, salary.....	55 00
"	31.	To J. L. Anderson, salary.....	12 50
"	31.	To Mrs. Emma Greiner, salary.....	5 00
April	9.	To American Toilet Supply Co., laundry.....	8 85
"	9.	To Aquos Dist. Water Co., merchandise	1 00
"	9.	To Central Union Telephone Co., rental.....	13 50
"	9.	To Citizens Gas Co., gas.....	44
"	9.	To Francis Pharmacy Co., merchandise	3 15
"	9.	To John S. Spann & Co., rent.....	25 00
"	9.	To Western Union Telegraph Co., tolls	50
"	9.	To J. L. Anderson, railroad fares.....	39 70
"	9.	To Hotel Metropole, rooms.....	28 00
"	9.	To M. F. Johnston, board.....	34 00
"	9.	To Mrs. Lucy Parker, room and board.	42 00
Total second quarter.....			\$1,006 72
April	30.	To Dr. W. V. Boyle, salary.....	\$125 00
"	30.	To Miss Etta M. Dolan, salary.....	55 00
"	30.	To Jas. L. Anderson, salary.....	12 50
"	30.	To Mrs. Emma Greiner, salary.....	5 00
May	7.	To Citizens Gas Co., gas.....	33
"	7.	To H. L. Sanders, merchandise.....	11 00

1915.

May	7.	To J. S. Spann & Co., rent.....	\$25 00
"	7.	To Central Union Telephone Co., tolls	1 50
"	7.	To Western Union Telegraph Co., tolls.	2 03
"	7.	To Jas. L. Anderson, railroad fares....	3 80
"	7.	To Edw. McAuliff, board and room....	7 00
"	17.	To J. L. Anderson, railroad fares.....	52 75
"	17.	To Mrs. Ada Johnson, room and board.	14 00
"	17.	To Saphronia Nunly, room and board.	14 00
"	17.	To J. S. Phillips, room and board.....	10 00
"	17.	To J. C. Plackett, room and board....	16 00
"	17.	To Hotel Metropole, rooms.....	12 00
"	17.	To Mrs. Jas. A. Millikan, board.....	16 00
"	31.	To Dr. W. V. Boyle, salary.....	125 00
"	31.	To Miss Etta M. Dolan, salary.....	55 00
"	31.	To Jas. L. Anderson, salary.....	12 50
"	31.	To Mrs. Emma Greiner, salary.....	5 00
June	8.	To Aquos Dist. Water Co., merchandise	1 00
"	8.	To J. L. Anderson, railroad fares.....	10 20
"	8.	To Hotel Metropole, rooms.....	12 00
"	8.	To Mrs. Jas. L. Millikan, board.....	23 00
"	8.	To Henry Schad, room and board.....	28 00
"	8.	To Indianapolis Reduction Co., re- moving garbage.....	15 00
"	21.	To J. L. Anderson, railroad fares....	55 20
"	21.	To Mrs. Herman Albertsmeier, room and board.....	14 00
"	21.	To Mrs. Jas. L. Millikan, meals.....	18 25
"	21.	To Hotel Metropole, rooms.....	12 00
"	21.	To Pettis Dry Goods Co., merchandise	1 26
"	30.	To Dr. W. V. Boyle, salary.....	125 00
"	30.	To Miss Etta M. Dolan, salary.....	55 00
"	30.	To Jas. L. Anderson, salary.....	12 50
"	30.	To Mrs. Emma Greiner, salary.....	10 00
July	7.	To American Toilet Supply Co., laun- dry.....	11 40
"	7.	To Aquos Dist. Water Co., merchandise	1 00
"	7.	To J. L. Anderson, railroad fares.....	66 55
"	7.	To Mrs. Jack Gibbeny, room and board	14 00
"	7.	To Mrs. Emelia Gottlob, room and board.....	36 00
"	7.	To Hotel Metropole, rooms.....	66 50
"	7.	To Mrs. Jas. A. Millikan, board.....	114 40
"	7.	To G. E. Stechert & Co., journal.....	2 25
"	7.	To Western Union Telegraph Co., rolls.	1 06
"	31.	To Dr. W. V. Boyle, salary.....	125 00
"	31.	To Miss Etta Dolan, salary.....	55 00
"	31.	To J. L. Anderson, salary.....	12 50
"	31.	To Mrs. Emma Greiner, salary.....	10 00
August	4.	To Pettis Dry Goods Co., merchandise.	1 26
"	4.	To The Francis Pharmacy, merchandise	6 90

1915.

August 4.	To J. L. Anderson, railroad fares.	\$28 25
" 4.	To Aquos Dist. Water Co., merchandise	1 00
" 4.	To John S. Spann & Co. (to August 1), rent.	58 33
" 4.	To Mrs. Della Berry, room and board.	42 00
" 4.	To Mrs. Charles Rinaldo, room and board.	21 00
" 4.	To Mrs. Jas. A. Millikan, board.	22 00
" 4.	To Hotel Metropole, rooms.	16 00
" 11.	To R. E. Springsteen P. M., postage stamps.	50 00
" 23.	To James L. Anderson, railroad fares. .	100 94
" 23.	To Mrs. Nannie Cooper, room and board.	45 00
" 23.	To Mrs. Jas. A. Millikan, board.	37 00
" 23.	To Hotel Metropole, rooms.	36 00
" 31.	To Dr. W. V. Boyle, salary.	125 00
" 31.	To Miss Etta M. Dolan, salary.	55 00
" 31.	To Jas. L. Anderson, salary.	12 50
" 31.	To Mrs. Emma Greiner, salary.	10 00
Sept. 7.	To J. L. Anderson, railroad fares.	32 75
" 7.	To Hotel Metropole, rooms.	55 00
" 7.	To Mrs. Jas. A. Millikan, board.	43 00
" 7.	To The Francis Pharmacy, merchandise	3 75
" 7.	To International Instrument Co., mer- chandise.	21 50
" 15.	To John S. Spann & Co., rent.	50 00
" 30.	To Dr. W. V. Boyle, salary.	125 00
" 30.	To Miss Etta M. Dolan, salary.	55 00
" 30.	To Jas. L. Anderson, salary.	12 50
" 30.	To Mrs. Emma Greiner, salary.	10 00
" 30.	To American Toilet Supply Co., laun- dry.	9 90
" 30.	To R. W. Abbett, merchandise.	3 50
" 30.	To J. L. Anderson, expense.	7 70
" 30.	To Aquos Dist. Water Co., merchandise	3 00
" 30.	To W. B. Burford, merchandise.	6 45
" 30.	To Hotel Metropole, rooms.	18 00
" 30.	To Mrs. Jas. A. Millikan, meals.	30 50
Total third and fourth quarters.		\$2,644 21

RECAPITULATION.

Total excess dog tax collected.	\$8,084 76
Expense first, second, third and fourth quarters.	4,719 80
Balance carried to fiscal yers 1915-16.	\$3,364 96

RECAPITULATION.

Appropriation.

Secretary's salary (specific).....	\$3,000 00	
Clerk Vital Statistics salary (specific).....	1,500 00	
Appropriation State Board of Health office.....	20,000 00	
Appropriation laboratory of hygiene.....	10,000 00	
Appropriation laboratory pure food and drugs....	20,000 00	
Appropriation water laboratory.....	5,000 00	
Appropriation weights and measures.....	5,000 00	
Cold storage fund.....	430 00	
Hydrophobia fund.....	8,084 76	
	<hr/>	
Total.....		\$73,014 76

Expenditures.

Secretary's salary (specific).....	\$3,000 00	
Clerk vital statistics salary (specific).....	1,500 00	
Office expense.....	19,937 57	
Laboratory of hygiene expense.....	9,976 96	
Laboratory pure food and drugs expense.....	19,985 81	
Water laboratory expense.....	4,989 99	
Cold storage fund expense.....	425 48	
Weights and measures expense.....	4,997 99	
Hydrophobia fund expense.....	4,719 80	
	<hr/>	
Total.....		\$69,533 60
Total appropriation and funds.....		\$73,014 76
Total amount expended.....		69,533 60
		<hr/>
Balance.....		\$3,481 16
Amount carried over in hydrophobia fund.....		\$3,364 96
		<hr/>
Amount reverting to general fund.....		\$116 20

TRANSCRIPTS

PROCEEDINGS

OF THE

STATE BOARD OF HEALTH

FOR

YEAR ENDING SEPTEMBER 30, 1915

**REGULAR QUARTERLY MEETING OF THE INDIANA
STATE BOARD OF HEALTH FOR THE FOURTH
STATISTICAL AND FIRST FISCAL QUARTER, BOTH
ENDING DECEMBER 31, 1914.**

JANUARY 8, 1915.

Called to order at 1:00 p. m. by President Davis.

Present—Drs. Boyers, Davis, Sutton, Freeland, Hurty.

The president announced the meeting was a regular one and its object to transact the business of the first fiscal and fourth statistical quarters, both ending December 31, 1914, and to transact any other business which might come before the board.

The minutes of the last regular meeting held October 9, 1914, were read and approved in each separate part and as a whole.

**REPORT OF SECRETARY FOR THE QUARTER ENDING
DECEMBER 31, 1914.**

FIRST FISCAL QUARTER AND FOURTH STATISTICAL QUARTER.

The reports show no particular improvement in health of the people compared with the corresponding quarter last year. The usual activities of the office have been kept up. The correspondence has been heavier than for the same quarter last year. Circulars were constantly sent out giving instructions in regard to disease prevention and the management of epidemics and infectious diseases. The machinery of the various departments has moved smoothly with constant efforts for improvement being made.

FOOT AND MOUTH DISEASE.

The presence of Foot and Mouth Disease among cattle disturbed the state during the quarter. Under the law the health department has very little to do with the diseases of animals but in this instance it was the opinion of the Governor after investigating the matter that the State Board of Health should lend all the assistance it could to the State Veterinarian, and therefore it was arranged that each county health commissioner should appoint as his deputy a veterinarian recommended by the State Veterinarian to look after Foot and Mouth Disease in his county. The suggestion of the Governor was adopted and it worked very well

except in two or three instances. On the whole the support and help furnished by the county health commissioners through recommendation of the secretary did much to abate the plague.

SMALLPOX AND SCARLET FEVER.

Epidemics of smallpox and scarlet fever appeared in many places. Neither of these diseases have been severe, the mortality being exceedingly low. During the quarter there were probably 2,000 cases of smallpox with 3 deaths. The number of cases of scarlet fever will never be known for so many of them were not attended by physicians, the parents considering them too mild to call medical help, yet several hundred cases were reported and the deaths for the quarter numbered 35.

VITAL STATISTICS.

The usual statistics concerning smallpox and typhoid are given herewith for the quarter:

SMALLPOX.

	<i>Cases.</i>	<i>Deaths.</i>	<i>Counties Invaded.</i>
October, 1913.....	73	3	14
October, 1914.....	232	0	23
November, 1913.....	126	4	21
November, 1914.....	637	1	24
December, 1913.....	183	0	13
December, 1914.....	386	2	37
<hr/>			
Total, 1913.....	382	7	48
Total, 1914.....	1,255	3	84

TYPHOID FEVER.

<i>Months.</i>	<i>Cases.</i>	<i>Deaths.</i>	<i>Counties invaded.</i>
October, 1913.....	486	126	69
October, 1914.....	414	75	69
November, 1913.....	314	80	67
November, 1914.....	339	78	60
December, 1913.....	181	60	41
December, 1914.....	152	41	43
<hr/>			
Total, 1913.....	981	266	177
Total, 1914.....	905	194	172

VISITS OF THE SECRETARY.

The secretary made the following visits: October 2, Tipton; October 12, Mooresville; October 6, Huntington; October 7, LaGrange; October 13, Alexandria; October 17, Madison; October 27, Evansville; October 24, Goshen; November 4, Eaton; November 10, Kentland; November 17, Martinsville; November 25, Monticello; November 28, Jacksonville, Florida; December 7, Muncie; December 13, Logansport; December 28, Chicago and Princeton.

Tipton, October 2.—I went to Tipton on this date, having accepted an invitation from the mayor and city council to be present and give an illustrated address on Disease Prevention Day. The celebration at Tipton was a great success. There was a procession through the streets which was financed by the merchants but directed by the superintendent of schools and the county and city health officers. My address was given in the opera house to an audience which filled the building to overflowing.

Mooresville, October 12.—This visit was made because of an invitation by the health officer and superintendent of schools to address the pupils and to examine the schoolhouse. The schools at Mooresville have become famous on account of the cleanliness of the yards, the freedom of the buildings from marks and scars of all kinds. The superintendent has aroused the pride of the pupils so that this important matter of preserving cleanly grounds and not marking or marring the buildings has become the feature of the Mooresville schools. In my address before the pupils I commended them heartily for doing something which brings to the schools of Mooresville and to them great credit.

Huntington, October 6.—Upon invitation of the mayor and county and city health officers and the Woman's Club, I visited Huntington to make a public address, also to consult with the city health authorities. I inspected much of the city with his Honor, the Mayor and committee of the council on public health and made several suggestions which the authorities said they would adopt. In the evening I spoke to a large audience in the Christian Church upon the work of the State Board of Health and general hygiene.

LaGrange, October 7.—Every year LaGrange holds what is called "LaGrange Annual Corn School." This is instead of a county fair. I was invited for the purpose of making an open air address with other speakers. To a large audience I told of the work of the State Board of Health and spoke of the importance

of rural hygiene. I also attended the "Baby Show" and helped in the work of judging the babies although I was not one of the judges. The Corn School and the Baby Show were both great success and I feel that my public health talk was attended with good results.

Alexandria, October 13.—The Woman's Civic Club of Alexandria holds a meeting every two weeks and invites some speaker from out of town to make an address. Upon this occasion your secretary was the guest of the club named and spoke to a large audience upon municipal hygiene and the work of the State Board of Health.

Madison, October 17.—I went to Madison on this date to attend the annual meeting of the State Charities Association before which I was invited to make an address upon public health and at which meeting the State Board was invited to make an exhibit.

Evansville, October 27.—The Federation of Women's Clubs met at Evansville on this date and by invitation I attended to deliver an address upon the subject which was assigned, namely "Counting Babies." My address was well received and will be printed by the Federation and distributed.

Goshen, October 24.—The city of Goshen holds every year a city street fair and with it associates free public lectures upon subjects pertaining to municipal affairs. My lecture was delivered in the opera house to an over-flowing audience. It was well received and a resolution of thanks was passed by the business men's association under whose auspices I was invited to speak.

Eaton, November 4.—This visit was made on account of smallpox. Mild smallpox had prevailed in Eaton and in Delaware county in neighborhood of the town for sometime and at last some severe cases had appeared and much alarm existed. I visited 10 houses where smallpox was found and at one home a very severe case, which has since recovered, existed. I met with the town authorities, the county health officer and the town health officer. The situation was thoroughly discussed and prompt measures were advised for the suppression of the disease.

Kentland, November 10.—The local woman's club of Kentland had extended to me many invitations to visit that town and give an address upon public health. I accepted for this date, November 10, and delivered an address before an over-flowing audience in the auditorium of the new Carnegie Library. A resolution

was passed thanking me and expressing confidence and offering help to the State Board of Health in its important work.

Martinsville, November 17.—I went to Martinsville on this date upon invitation of the local woman's civic club and the county health commissioner, the object being to make a public address and to give advice concerning municipal sanitation. I met with the authorities after making inspection of some streets and alleys and buildings and offering suggestions. In the evening I delivered an address in the opera house before an over-flowing audience and presented prizes to the pupils who had written the best essay upon the prevention of tuberculosis.

Jacksonville, Florida, November 28.—In accordance with the order of the State Board of Health I visited Jacksonville to attend the annual meeting of the American Public Health Association. It seems unnecessary to give details concerning that meeting of this great society as the same can be found in its reports. Sufficed to say I feel that I gathered much enthusiasm from the meeting and acquired much new knowledge pertaining to administrative hygiene and general sanitation.

Muncie, December 7.—This visit was made because of an invitation from the Muncie Woman's Franchise League. I spoke before the League upon the usual subject of the work of the State Board of Health and public hygiene. The mayor, the judge of the circuit court, several members of the city council and several physicians were present but the audience was largely composed of the women members of the league.

Logansport, December 13.—My invitation to visit Logansport was received from the mayor and common council to address a public audience and to give advice upon the typhoid situation which had prevailed at Logansport for several weeks. Upon arrival although the day was Sunday I inspected the filter works with the health officer, Dr. Rogers, and also five families where typhoid fever existed. In the evening I addressed a large audience in the M. E. Church, being introduced by the mayor. The address was illustrated and devoted principally to the cause and prevention of typhoid fever. It was well received and a resolution of thanks and confidence in the State Board of Health was passed.

Chicago, Princeton, December 28.—On December 28 I went to Chicago to make a study of the public health exhibit which was financed by the City Club and presented in its building. Six stories were devoted to the exhibit. Visitors took the elevator

to the sixth story, studying the exhibit there shown upon child hygiene and then dropping story by story visiting the various floors. Many notes were taken and I derived much benefit from the visit. In the evening I attended an illustrated lecture delivered by three different speakers, speaking myself upon administrative hygiene in Indiana. In the evening I left Chicago for Princeton where I addressed the Southern Farmer's Conference. Of course I was invited by the management. I had a large audience of farmers and gave them a talk upon rural hygiene. I was well received and a resolution of thanks was passed.

DISEASE PREVENTION DAY.

The secretary takes much pride in telling about Disease Prevention Day in Indiana. Governor Samuel M. Ralston issued a proclamation declaring October 2 as Disease Prevention Day. The secretary upon the Governor's request took hold of the same and published a pamphlet for distribution throughout the state. To make a record of the part this board took in the matter, the pamphlet is appended hereto.

It was celebrated very generally throughout the state, only a few cities and towns not participating. The only large city which did not celebrate the day was Fort Wayne. I have never learned why this matter was neglected in this city. At Indianapolis there was a procession almost two miles long with probably 500 persons participating. The Governor reviewed it from the balcony of the English Hotel. We must not omit to say that Mr. W. D. Thurber, Secretary of the Indiana Society for the Study and Prevention of Tuberculosis was most prominent in making this celebration a success. The society itself must also be given great credit.

PUBLIC HEALTH IS PUBLIC WEALTH
A PROGRAM

INDIANA DISEASE PREVENTION DAY

October 2, 1914

"The care of the public health is the first duty of the Statesman"

—Disraeli.

INDIANA STATE BOARD OF HEALTH.

HONOR.

To Indiana is the honor, first of all the States, of having a proclamation from her Governor appointing DISEASE PREVENTION DAY.

In proclaiming October 2, 1914, as the day when all citizens should give thought and attention to the highly important economic and moral matter of preventing disease, Governor Ralston has brought new honor to our State and has put himself at the head of the public health movement in Indiana.

PROGRAM.

SUGGESTIONS FOR THE CELEBRATION OF DISEASE PREVENTION DAY,
OCTOBER 2, 1914.

TEACHERS.

Every teacher in the schools should present a lesson about the very great importance of preventing disease, and keeping well. Read the Governor's Proclamation. Read the poem, "Fence or Ambulance," in every school room.

POINTS FOR TEACHERS.

Don't lean upon medicines. Base life upon living according to the laws of our well-being. Sickness means some law of health has been violated. Keeping well is a moral duty. The body is the temple of the soul. Health is the greatest, the only wealth. The future belongs to that nation which has the most healthy, strong, men and women. Sickness is a great cause of poverty, insanity, and crime. To secure health, learn to breathe. Practice deep breathing. Thorough oxygenation of the blood is the first requirement of health. Stop breathing and death will result within eight minutes. Live

much in the open air and sunshine. Open bedroom windows at night. Flood the house several times daily with fresh air. Insufficient air brings consumption. Keep the body clean. Keep your mouth clean. Use a toothbrush after every meal. Keep your teeth in good repair.

Write health mottoes on the blackboards. Print them on cards. Give health mottoes for writing lesson. Have the children repeat health mottoes in concert. Decorate the schoolroom with flowers, flags, etc. Direct the children to come to school bathed and dressed in their holiday clothes.

PUBLIC HEALTH PROCESSION.

Get up a public health procession. In cities the mayors should head the procession. In towns the town board of trustees, the town board of health under the law, should lead. There should be a brass band. Drums and trumpets should be used. Music is necessary for a procession. School girls dressed in white, bearing banners with health mottoes. Boys in white, or otherwise neatly dressed, carrying banners with health mottoes. Where there are high schools, the pupils should try to present some original idea emphasizing the importance of disease prevention.

BUSINESS MEN.

Business Men should be represented in the procession. *The most important business before the business men today is the business of the public health.* They should gladly and liberally finance the celebration.

Retail stores should dress their windows with articles they deal in which belong to or hint at cleanliness and health. For instance, hardware stores can show garbage cans, garden hose, rakes, fly-traps, rat-traps, scrubbing brushes, mops, etc., and in the window display health mottoes. Dry goods merchants can show piles of towels of different kinds and grades together, with a pile of soap arranged around a bathtub. Ingenuity will develop other ideas. Grocers could make pure food displays, and so could restaurants. In all store windows and home windows, too, display health mottoes.

BIG BANNERS across streets should be displayed bearing health mottoes. Flags should be everywhere. There is no higher patriotism than doing all one can do to bring health to the nation.

CLEAN UP.

Let every home, every front and back yard, rears of stores, and all streets and alleys be made especially clean for DISEASE PREVENTION DAY. Let every person wear clean clothes on that day, take a bath, put on a clean shirt, clean socks, clean collar, and get a shoe shine. Get a haircut and a shave, wash hands and face, clean finger nails, stand straight, and don't spit on the sidewalk. Let everybody be clean and talk cleanliness and health.

Cleanliness is Next to Godliness.

PUBLIC MEETING.

Hold a public health meeting. Have music. Secure speakers. In cities the mayor should preside. A minister might speak upon "*The Gospel of Hygiene*." A woman speaker should be secured. The local health officer should take part. He should tell about the health law and what he wants to do for the people. He should make plain he is to lead in the matter of more healthful living and the securing of better sanitary conditions.

Support Your Health Officer.

Teachers read this poem to your pupils.
Everybody should read this poem.

FENCE OR AMBULANCE.

'Twas a dangerous cliff, as they freely confessed,
Though to walk near its crest was so pleasant;
But over its terrible edge there had slipped
A duke, and full many a peasant;
So the people said something would have to be done
But their projects did not at all tally.
Some said, "Put a fence around the edge of the cliff,"
Some, "An ambulance down in the valley."

But the cry for the ambulance carried the day,
For it spread through the neighboring city;
A fence may be useful or not, it is true,
But each heart became brimful of pity
For those who slipped over that dangerous cliff,
And the dwellers in highway and alley
Gave pounds or gave pence, not to put up a fence
But an ambulance down in the valley.

"For the cliff is all right if you're careful," they said,
"And if folks even slip and are dropping,
It isn't the slipping that hurts them so much
As the shock down below when they're stopping;"
So day after day as those mishaps occurred,
Quick forth would these rescuers sally,
To pick up the victims who fell off the cliff
With the ambulance down in the valley.

Then an old sage remarked, "It's a marvel to me
That people give far more attention
To repairing results than to stopping the cause,
When they'd much better aim at prevention.
"Let us stop at its source all this mischief," cried he,
"Come, neighbors and friends, let us rally;
If the cliff we will fence we might almost dispense
With the ambulance down in the valley."

"Oh, he's a fanatic," the other rejoined,
"Dispense with the ambulance? Never!
He's dispense with all charities, too, if he could,
No, no! We'll support them forever!
Aren't we picking folk up just as fast as they fall?
And shall this man dictate to us? Shall he?
Why should people of sense stop to put up a fence
While their ambulance works in the valley?"

But a sensible few, who are practical too,
Will not bear with such nonsense much longer;
They believe that prevention is better than cure,
And their party will soon be the stronger.
Encourage them, then, with your purse, voice and pen,
And (while other philanthropists dally)
They will scorn all pretense and put a stout fence
On the cliff that hangs over the valley.

Better guide well the young than reclaim them when old,
For the voice of true wisdom is calling;
To rescue the fallen is good, but 'tis best
To prevent other people from falling;
Better close up the source of temptation and crime
Than deliver from dungeon or galley;
Better put a strong fence 'round the top of the cliff,
Than an ambulance down in the valley.

GOVERNOR'S PROCLAMATION.

DISEASE PREVENTION DAY IS PROCLAIMED BY THE GOVERNOR.

Society never stands still. It either increases its activities, broadens its views, and makes real progress, or it deteriorates and becomes indifferent to the public welfare. The principle that "that government is the best that governs the least" is founded upon the theory that it is better for both the individual and society to achieve their goal uninterfered with and unassisted by government. One of the great objects of government in this country has been, therefore, to promote the happiness of the people by protecting them in their efforts to help themselves, that they might individually make their proper contributions to the public welfare.

And just in the degree the individual and society fail to do their duty in these respects government is forced to have that service performed by official mandate. Recognizing this fact, this proclamation is issued with the view of arousing a greater interest on the part of citizens in public affairs, and especially in the matter of public health. Sanitary conditions bear directly upon this problem, and if citizens of their own initiative do not deal wisely and effectively with these conditions, they must of necessity be regulated and controlled by law. That this is a legitimate function of government, whenever unsanitary conditions are neglected by society until they imperil the public interest, has long been held by the most advanced thinkers:

"Health raises and disease lowers the standard of purity and morals."—*Seneca.*

"The health of its people is the greatest asset a state can have. Improve the public health and you increase the resources of the commonwealth. You cut off waste, public and private, promote community prosperity and individual welfare, and encourage happiness. What greater deed could you do to earn the gratitude of the people of your State? An ounce of prevention is worth tons of cure."—*Straughn.*

"That government is the best which secures for its citizens the greatest freedom from disease, the highest degree of health and the longest life; and that people which most fully secures the enjoyment of these blessings will dominate the earth."—*Vaughn.*

"In the health of the people lies the strength of the nation."—*Gladstone.*

CONGRATULATIONS RECEIVED.

When it became known a few weeks ago that this proclamation was contemplated, the humane and public-spirited Nathan Straus, of New York, wrote me thus:

"You have done a splendid thing in planning for the observance in your state of a 'Disease Prevention Day,' and I want to congratulate you on taking this important step. I regard this one of the greatest ideas ever originated in this country, and I am sure it will be copied in other States."

When reference is had to the facts, it is easy to understand why these eminent thinkers are so solicitous regarding this serious subject. In a recent address made by that great student of public affairs, Secretary Redfield, of President Wilson's cabinet, he makes this startling statement:

"Now, there have died in the United States in the last six months from preventable causes more people than were slain in the civil war, and more, many times more, than all that have died in the Mexican troubles. We know how to prevent these people from dying, but still they die. We know how to prevent their deaths. We do not prevent them."

The tragedy of today is magnified, when we consider that, according to the showing made by our own State Board of Health, more than eight thousand persons died in 1913 in Indiana from preventable diseases.

When contemplating such a disaster our moral sense is so shocked that we hesitate to figure in dollars the vast millions in loss it entails upon our commonwealth. The havoc appears still greater when we consider the property loss through fires occasioned by the unsanitary accumulation of rubbish.

HEALTH GREATEST BLESSING.

To poison men in factories and mines, to pollute drinking water supplies, to adulterate foods, to drug with nostrums, to maintain conditions causative of preventable diseases is criminal. Health is the greatest of blessings and the source of efficiency and power. The enjoyment of life, and the achievement of liberty and happiness are impossible without it. There is nothing strikingly glorious in a civilization not founded upon intellectual and moral as well as physical strength, for physical health is the surest foundation of mental and moral health.

Now, Therefore, I, Samuel M. Ralston, Governor of Indiana, in consideration of these truths, do hereby designate and proclaim

FRIDAY, OCTOBER 2, 1914

AS

DISEASE PREVENTION DAY

within the confines of said State; and I respectfully urge that such exercises be given in the public schools, and such action be taken by the various municipalities and civic and other organizations in Indiana, as will emphasize the importance of public health, the joint responsibility of all citizens therefor, in the light of its relation to good society and good citizenship, and will inspire in every one a desire to meet that responsibility by an active co-operation in all sane efforts for the prevention of physical diseases.

SAMUEL M. RALSTON,
Governor.

MOTTOES FOR DISEASE PREVENTION DAY.

Health is Paramount.

The only good fly is the dead fly.

Health first. Don't spit.

Well kept alleys pay better dividends than well kept cemeteries.

Poverty is caused by disease.

Keep well and don't buy medicine.

Public Health is Public Wealth.

Kill rats. They carry plague.

Cleanliness is next to Godliness: 'Dirt doesn't do any good.

Can all garbage in a garbage can. You can.

Don't drug the baby.

Ventilate your bedroom.

Nourish your body with plain, well cooked foods.

Don't use a common drinking cup.

Manure piles generate flies. Flies carry disease.

Swat the typhoid fly.

Dispose of all sewage all of the time in a sanitary way.

Abolish the noisome outhouse.

Much disease proceeds from polluted water.

Keep your garbage in a metal can.

Keep garbage tightly covered.

HEALTH—The State's most valuable asset.

Protest against dry sweeping.

Away with feather dusters.

Bat the rat and swat the fly.

Don't take patent medicines.

Don't take dope.

Save the children in time.

All the time is clean up time.

There is no wealth but health.

Banish all disease conditions.

Dust, Dirt, Dampness, Darkness, Drink will always kill.

Take care of your sewage and don't have typhoid.

Breathe plenty of pure air.

Chew your food well.

Induce the local moving picture shows to secure reels illustrating some health subjects and run them DISEASE PREVENTION DAY.

VISITS MADE BY ASSISTANT SECRETARY FOURTH QUARTER, 1914.

October 12, to Mooresville to inspect school building. Gave a talk to high school.

October 17, to Paoli to address the Orange County Teachers Institute.

October 22, to Shelbyville to address the Parent-Teachers Club.

October 26, to Whiting on account of smallpox.

October 27, to South Bend and New Carlisle on account of foot and mouth disease.

October 28, to Albion to make a survey of Albion school building.

November 2, to Acton to inspect a temporary school building erected in place of former building destroyed by fire.

November 7, to Michigan City to attend a conference on account of Foot and Mouth Disease.

November 8, to South Bend and New Carlisle to confer with government officials on account of Foot and Mouth Disease.

November 17, to Young America and Alto to inspect new school buildings.

November 25, to Newcastle to inspect and test new school buildings at Millville.

December 9, to Huntington to survey schoolhouse site.

December 10, to Warsaw to give an address at dedication of new Washington township consolidated school building.

December 14, to Frankfort to address the Health Culture Club.

December 17, to Flora to survey old school building.

December 28, to Chicago to visit Public Health Exhibit at City Club.

December 29, to Wanatah to inspect and test new school building.

LEBANON SEWAGE ORDER.

The order of the State Board of Health passed October 9 and found in the minutes of the meeting of that date was duly served by Dr. Herma A. Beck, county health commissioner of Boone County upon the Mayor of Lebanon. Dr. Beck sent official notice that the order of the State Board of Health was presented to the Mayor and city council at 8 p. m. November 9, 1914, and that no action was taken.

Concerning the same the State Board of Health received the following letter:

LEBANON, INDIANA,
DECEMBER, 16, 1914.

State Board of Health.

The mayor and the common council of the city of Lebanon, Indiana, a few days ago got a notice from you of the township trustees of Center, Washington and Sugar Creek townships of Boone county, Indiana, complaining about the city of Lebanon, Indiana, discharging its sewage into Prairie Creek. The mayor and common council of said city authorized me to notify you that they are going to put in a sewage desposal plant this coming summer. They don't wish to have any trouble and would be glad if you will consider this notice.

Attest: WM. F. SMITH,
Clerk, City of Lebanon, Indiana.

Your secretary also received verbal notice from Dr. Beck that the city council would act promptly early in the spring and the city of Lebanon would cease its disposal of sewage in the manner heretofore complained of.

No further action being necessary it was

Ordered: The above facts concerning the disposal of sewage at Lebanon be made of record.

SANITARY SURVEY OF STATE FARM.

Upon request of the trustees of the State Farm a sanitary survey was made by Mr. Diggs, September 17. His report was full, water analyses were made and from the same the following report was compiled by the secretary and forwarded to the trustees.

SANITARY SURVEY OF THE STATE FARM.

Location is in Putnam county, Indiana, on the National Road about one-half mile west of Putnamville.

Area—About 1,700 acres.

Character—Partly valley or bottom land, bordering a small stream called Dear Creek, and partly rough and rolling. The entire area is underlaid with Mitchell Limestone. The soil in the bottoms is of the usual kind found in such places and the hill-side and knoll-side soil, is well washed and poor.

Health—The health of the people in this region has been and now is as good as the average for the state. The average death rate is low, being 10.8 for the last ten years.

Water Supply—The domestic water supply of the present and past residents of this tract is taken from shallow wells and springs. Water from such sources is always under suspicion, and especially in area underlaid with limestone.

The analysis of one sample of water from a dug well 30 feet deep showed it to be polluted and impotable. Deep wells are not a success in this part of Putnam county, for the flow or amount of water is usually insufficient, and it is too heavily charged with mineral matter derived from the soluble lime stone and other mineral substances in the ground.

Water carrying over 40 parts of solids per 100,000 is not desirable for drinking, and is very undesirable for bathing, laundry and steam making. The analysis of the water from one deep drilled well (220 feet deep) upon the farm showed it to be quite free from pollution and potable from the sanitary point. It was heavy in mineral matter and no good for bathing, laundry and steam making.

Deer Creek—A small tributary of Big Walnut Creek, would furnish an ample water supply, which, if filtered, would be excellent for all purposes. Deer Creek is about 15 miles long from above Putnamville, and a drainage basin with an average width of four miles. This gives approximately a water shed of sixty

square miles. The water-shed of the upper part of Deer Creek is rolling with hilly sections. The lower part is quite hilly with bottom land varying from one-fourth to one mile in width. Outcroppings of lime stone frequently appear in the gullies and ravines. The region presents many sink holes and small caves. The bottoms are a sandy loam, sometimes gravelly, and the hills and knolls are soiled with sandy clay.

When rains are heavy the water run-off is rapid, the stream frequently overflowing its banks. However, there is usually sufficient soil absorption to keep a flow in dry seasons. In many dry seasons, the flow is nil in some places.

Deer Creek will certainly give an abundant supply of water for 2,500 to 3,000 people. To use it as a source of supply, one or perhaps two dams will be necessary for impounding against dry weather. Of course, this impounded creek water should be purified. This could easily be done and thus a pure, soft and ample water supply be secured.

An analysis of a sample of water taken from Deer Creek shows it to be polluted and unfit for domestic use. As said, it can be easily and cheaply purified.

Sewage Disposal on and for the State Farm would not be difficult nor very expensive, and could be so constructed as not in the least to threaten the water supply. The contour of the land from the drainage and sewerage point of view is excellent. The elevation of the sites of the proposed buildings is at least 30 feet above Deer Creek, and sewage could therefore be rapidly flowed away. The contour also is favorable for the construction of a sewage disposal plant which must be provided.

SUMMARY.

The State Farm and the region surrounding is healthful.

The contour of the land is favorable.

An ample and pure soft water supply is obtainable.

The natural conditions permit, at not great expense, the construction of an efficient sewer system, with purification plant, without endangering the water supply or otherwise threatening the health of the colony.

NEW LEGISLATION.

The following health law was reviewed by the Board, was endorsed in all particulars and its passage recommended to the 69th General Assembly.

A BILL FOR AN ACT entitled an act creating all-time county and city health commissioners, defining their duties and powers, giving certain powers to the State Board of Health, exempting cities of the first class from the requirements herein, and repealing acts and parts of acts in conflict therewith.

Section 1. Be it enacted by the General Assembly of the State of Indiana, That in every county there shall be a county health commissioner who shall be the superior health commissioner of his county and who shall be appointed for a term of four years by an appointing board to consist ex-officio of the county commissioners. Said appointments shall be made on the first Tuesday in January, 1916, as herein provided, and beginning on the first Tuesday in January, 1918, every four (4) years thereafter. Such county health commissioner shall be selected and appointed from an eligible list consisting of three classes, namely: (1) Legally qualified physicians who have had four (4) years' recent experience in public health work in Indiana; (2) Legally qualified physicians who have passed a satisfactory physical examination and also a satisfactory examination in hygiene and sanitary science before the State Board of Health, and who hold a certificate of eligibility therefrom; (3) Graduates from reputable teaching institutions holding the degree of doctor of Public Health (D.P.H.). Provided: That all county health commissioners and city health officers in cities of more than 20,000 population, now serving, shall if they so elect, be continued as all-time county or city health commissioners under the provisions of this act until the expiration of the term for which they were appointed; if, however, any county health commissioner or city health officer as above provided, elects not to continue, the appointment of his successor shall be for the unexpired portion of the term only. County health commissioners shall be able-bodied, temperate, not addicted to the use of habit-forming drugs and of good moral character. They shall give their entire time to the duties of their office and shall not engage in private medical practice, nor engage actively in any other business. They shall possess the statutory powers of a constable at law within the county in all matters pertaining to public health and in the enforcement of health laws, health ordinances, and rules and orders of the State Board of Health.

In every incorporated city having a population of 20,000 or more there shall be a city health commissioner who shall serve the present unexpired term beginning the first Tuesday in January, 1916, as above provided for county health commissioners and for a term of four years beginning the first Tuesday in January, 1918, and every four (4) years thereafter. City health commissioners shall be selected and appointed by the mayors of their respective cities from the same eligible list as county health commissioners and shall possess the same qualifications required of county health commissioners under the provisions of this act. They shall devote their entire time to the duties of their office and shall have the statutory powers of a constable at law within the corporate limits of the city in all matters pertaining to public health and in the enforcement of health laws, health ordinances, and the rules and orders of the State Board of Health. Each county health commissioner and city health commissioner shall give bond in such sum as the appointing authority may determine, and shall take and subscribe to an oath

of office before any officer legally authorized to administer an oath that he will faithfully and honestly discharge the duties of said office, which oath together with notice of appointment, shall be filed with the State Board of Health.

Sec. 2. Each county health commissioner shall receive as his compensation from the county which he serves a salary to be determined as follows: In counties of less than 10,000 population not less than \$1,500 per annum; in counties of 10,000 to 20,000 population not less than \$1,800 per annum; in counties of 20,000 to 30,000 population, not less than \$2,000 per annum; in counties of 30,000 to 50,000 population, not less than \$2,500 per annum; in counties of more than 50,000 population, not less than \$3,000 per annum. County commissioners, at their discretion, may increase these salaries. Each city health commissioner shall receive as his compensation from the city he serves, a salary to be determined as follows: In cities of 20,000 to 30,000 population not less than \$2,000 per annum; in cities of 30,000 to 50,000 population, not less than \$2,500 per annum; in cities of more than 50,000 population not less than \$3,000 per annum. City councils, may at their discretion, increase these salaries. The total population of counties and cities for the purpose of this act shall be determined by the methods of the United States Census Bureau and the population of the counties having cities of 20,000 and over shall be determined by subtracting the total population of said cities from the total county population. In each county there shall be an annual health appropriation of not less than \$500 for the office and traveling expenses of the county health commissioner, for the prevention of disease, the prevention and control of epidemics, and for public health purposes, and the same shall be paid out by the county treasurer upon warrants from the auditor, which warrants shall be issued upon sworn vouchers made by the county health commissioner, said vouchers to be accompanied by bills for all expenditures.

In each city of 20,000 or more population there shall be an annual appropriation of not less than \$500 to be known as the city health fund for the office and traveling expenses of the city health commissioner, for the prevention of disease, the prevention and control of epidemics, and for public health purposes city annual health appropriations shall be appropriated and paid out in the same manner as other city funds are appropriated and paid out.

The office of the county health commissioner shall be in the court house or in other suitable quarters provided by the county commissioners at the county seat, and all records pertaining to such office shall be preserved at the county seat in the same manner as other county records. The office of the city health commissioner shall be in the city building, or other suitable quarters provided by the city and all records pertaining to such office shall be preserved in the same manner as other city records. County and city health commissioners, upon the recommendation of their respective appointing boards and with the consent of their respective county and city councils, may establish county and city laboratories of hygiene, proper appropriations to be made for maintenance of the same.

Sec. 3. It shall be the duty of the State Health Commissioner, county health commissioners and city health commissioners to be diligent in the work of disease prevention and public health conservation, to enforce all health laws of the State and health ordinances of their respective jurisdictions,

to enforce all the rules and orders of the State Board of Health, to collect, record and report the vital statistics of their respective jurisdictions, to keep full and permanent records of their public health work, and to make reports of the work done by them to the State Board of Health as may be directed in the rules of said board, after making a permanent record of such reports in their permanent record books. County health commissioners shall be the superior health officers in their respective counties. The State Health Commissioner, all county health commissioners and all city health commissioners and their deputies shall have power to make sanitary inspections and surveys of all public buildings and institutions, to enter upon and inspect private property at proper times to make inspections for the purpose of determining the possible presence, source or cause of disease, to establish quarantine, and in connection therewith to order whatever is reasonable and necessary for the prevention and suppression of disease. They shall have power to abate nuisances inimical to the public health upon formal written order, also to close schools, churches, theaters or any place of public assemblage and to forbid public gatherings in order to prevent or stay epidemics, and in all reasonable ways to protect the public health. All health commissioners shall be food, drug and sanitary inspectors under the provisions of the quarantine, nuisance and pure food and drugs laws. They shall have power, with the approval of their appointing authorities, to appoint deputies at such compensation as said authorities may approve, the said compensations to be paid out of the annual health appropriations. County health commissioners shall make an inspection and sanitary survey of the county infirmary, county orphans' home, county court house and county jail at least every three months, and shall make a sanitary survey in their jurisdictions at least once each year of all school buildings and grounds while schools are in session, and they shall do such other sanitary and disease prevention work as may be required by the State Board of Health. They shall make a report of all such sanitary and disease prevention work to the State Board of Health as said board may direct, and they shall record the same in their permanent records. City health commissioners shall have immediate control and direction of the city sanitary police force, of the city meat and dairy inspectors and of the city plumbing inspectors, if such there be. They shall have charge of the municipal hygiene laboratory if any, and shall require and superintend, in relation to the sanitary conditions of the city, such chemical, histological, bacteriological and pathological investigations as they may deem advisable. City health commissioners shall make sanitary surveys from time to time of all public buildings, philanthropic and charitable institutions, jails, prisons, theaters, and places of public assemblage or public resort, and shall make a sanitary inspection and survey of all public, private and parochial school buildings, colleges, boarding schools and dormitories within their respective jurisdictions at least once each year while such schools are in session, and shall do such other sanitary work as may be required by the State Board of Health. They shall make a report of all such sanitary surveys to the State Board of Health and record the same in their permanent records. The State Board of Health shall have power to discharge any health commissioner for intemperance, drug addiction, failure to perform the duties of his office, failure to enforce and fulfill the orders of the State Board of Health and for failure to answer letters of inquiry from the State Board. Such discharge

shall not be made until seven days' notice of the charge or charges shall have been mailed to the accused by said board, naming a time and place for hearing by the State Board. Any health commissioner discharged as herein provided, shall be ineligible for reappointment and the vacancy shall be filled by the appointing board having jurisdiction.

Sec. 4. It shall be unlawful for any person, firm, company or corporation to institute, permit or maintain any nuisance or conditions whatever which may transmit, generate or promote disease; and it shall be the duty of all health commissioners upon learning in any way of the existence of said unlawful conditions within their respective jurisdictions, to order their abatement in writing, specifying wherein said conditions may transmit disease, and naming the shortest reasonable time for abatement. Upon refusal or neglect of any person, firm, company or corporation to obey said order, then the district prosecutor of the district wherein the offense occurs, upon receiving the information from said health commissioner, shall institute proceedings in the courts for violation and enforcement; and any violation of the commands of this section or the violation of the orders of health commissioners issued under this act, shall be punished by a fine of not less than ten nor more than one hundred dollars and imprisonment for not more than ninety days at the discretion of the court.

Cities of the first class shall be exempt from the provisions of this act, except that the State Board of Health shall be superior over all health authorities in each and all parts of the State. All laws and parts of laws in conflict with this act and all laws and parts of laws creating town and city health officers heretofore enacted are hereby repealed.

Violation of this act or any part or parts thereof, except as otherwise provided, shall upon conviction, be punished by a fine of ten to fifty dollars.

SCHOOLHOUSES CONDEMNED.

The following schoolhouses were condemned:

Harrison Co. District No. 7, Jackson Tp., Ramsey School.

Orange Co. Jackson Tp. Dist. No. 8.

Noble Co. Avilla School, Allen Township.

WHEREAS, The said schoolhouses are duly entered herewith and for which each individual and separate schoolhouse a sanitary survey has been made and filed in the Office of the State Board of Health, and

WHEREAS, Each individual and separate schoolhouse as above named has been judged to be insanitary and unfit for school purposes, the same are herewith condemned and the authorities in charge of said schoolhouses are forbidden according to law to use, or occupy or permit to be used said schoolhouses for school purposes after June 15, 1915.

INDIANAPOLIS SEWAGE DISPOSAL.

At the regular meeting held October 9, formal order was issued to the authorities of the city of Indianapolis commanding that the said city should present plans and specifications for the sanitary disposal of the sewage of the city to the State Board of Health January 9, 1915.

The Board adjourned without receiving any communication of any kind whatsoever from the authorities of Indianapolis. It thereupon was

ORDERED: The secretary shall consult with the attorney general as to what action shall be taken and the attorney general's advice is herewith adopted by the board, and the secretary instructed to execute the same.

Note by secretary. About fifteen minutes after the adjournment of the Board and departure of members, the following letter was received from Hon. Joe E. Bell, Mayor of the City of Indianapolis:

JANUARY 8, 1915.

DR. J. N. HURTY, .

*Secretary, State Board of Health,
Indianapolis, Indiana.*

Dear Sir:

In the matter of sewage disposal for the city of Indianapolis, I beg to advise you that the city engineering department is now at work on plans for connecting all intercepting sewers to convey the sewage of the city to one point, either at Sellar's Farm or to a point on the east side of the river. The city engineer reports to me that these plans will be completed in about sixty days.

I have requested Mr. W. A. Pickens, corporation counsel, to prepare a bill to be presented to the legislature in the next few days, empowering the city to construct a sewage disposal plant and providing methods and means of raising money for this purpose. This bill will be presented to you as soon as ready, and the city requests the co-operation of the State Board of Health in securing its passage. I wish to assure you that the city is doing everything in its power to complete the plans and to let the contract for a sewage disposal plant at as early a date as possible.

Yours truly,

J. E. BELL,
Mayor.

ORDERED: Mr. H. E. Barnard shall be a delegate from the State Board of Health to attend the Lake Michigan Pure Water Commission at Milwaukee, March 12, his expenses to be paid from the fund appropriated for the water and sewage laboratory.

**REGULAR QUARTERLY MEETING OF THE INDIANA
STATE BOARD OF HEALTH FOR THE FIRST STA-
TISTICAL AND SECOND FISCAL QUARTERS, BOTH
ENDING MARCH 31, 1915.**

APRIL 9, 1915.

Called to order at 1:00 p. m. by President Davis.

Present: Drs. Davis, Boyers, Freeland, Sutton, Hurty.

The President announced the meeting was for the purpose of considering the business of the first statistical and the second fiscal quarter of the Board year and to attend to any other business which might be brought before the Board.

The minutes of the last regular meeting held January 8, 1915, were read and adopted in each separate part and as a whole.

**THE SECRETARY AND ASSISTANT SECRETARY'S
REPORT.**

**REPORT OF THE SECRETARY FOR THE QUARTER ENDING
MARCH 30, 1915. SECOND FISCAL QUARTER
AND FIRST STATISTICAL QUARTER.**

The annual report for 1913 has not yet been received from the public printer. The manuscript was given him in September 1914. The manuscript for the 1914 report will not be ready until July. The usual excuse must be offered, and that is a lack of sufficient clerks to bring the work on earlier and at the same time keep up the usual and routine duties of the office.

Smallpox and scarlet fever prevailed rather extensively in January, February and March. However, the mortality from these diseases was very low. It seems that not only smallpox has taken on a mild form but that this is true also of scarlet fever. Doubtless the mild scarlet fever leaves a sequela of a more or less serious nature and for this reason, if none other, it should be energetically contended against. Smallpox seems to do little or no harm because it is so very mild and in the whole year only 8 deaths occurred. Several cities have been plagued with the disease to such an extent that they established pest houses, or as was termed in one instance "Contagious Disease Hospitals." New Castle was most prominent in this matter. Evansville has

long had a pest house but no other city of the southern sanitary section of the state, so far as known, supports such an institution.

A study of the birth statistics indicate that they are becoming more and more accurate each quarter. This is effected by persistent correspondence and investigation. The Indiana Mothers' Baby Book has certainly aided in the matter of making birth statistics better.

Foot and mouth disease among the cattle has entirely subsided and all the county quarantines have been dissolved at this date. We have no reports of the disease having attacked human beings. In two counties the county commissioners refused to compensate the veterinarians who were appointed as deputies of the county health commissioner as was recommended by the Governor. The secretary is informed that suits will be brought in these counties and it is to be hoped that proper compensation will be given for all proper service rendered.

VITAL STATISTICS.

The usual statistics concerning smallpox and typhoid are given herewith for the quarter.

SMALLPOX.

<i>Month.</i>	<i>Cases.</i>	<i>Deaths.</i>	<i>Number of Counties Invaded.</i>
January, 1914.....	234	1	26
January, 1915.....	528	1	41
February, 1914.....	458	0	38
February, 1915.....	415	1	38
March, 1914.....	680	0	40
March, 1915.....	524	1	42
<hr/>			
Total, 1914.....	1,372	1	104
Total, 1915.....	1,467	3	121

TYPHOID FEVER.

<i>Month.</i>	<i>Cases.</i>	<i>Deaths.</i>	<i>Number of Counties Invaded.</i>
January, 1914.....	74	26	34
January, 1915.....	142	37	40
February, 1914.....	81	25	33
February, 1915.....	127	38	32
March, 1914.....	53	27	19
March, 1915.....	132	45	37
<hr/>			
Total, 1914.....	208	78	86
Total, 1915.....	401	120	09

THE 69TH GENERAL ASSEMBLY.

The "All Time Health Officers Bill" endorsed by the Board was not successful. It is evident that further education of the masses is necessary before the necessary improvement of the public health service can be secured. Success was hardly to be expected from this first effort. Education must be continued for another two years, and then despite opposition which will come from a certain class and order of health officers now serving, this great improvement will be realized.

The secretary is happy to state that the Board of Health appropriation was increased by \$5,000 and that \$4,000 was given for the Indiana Mothers' Baby Book instead of \$2,500, the first appropriation. We have therefore to record a total increase of appropriation of \$6,500 which certainly means that some advancement in public health work has been made.

An amendment was made to the schoolhouse law giving power to the Superintendent of Public Instruction and the Secretary of the State Board of Health, under certain circumstances, to waive the requirement that new schoolhouses shall not be nearer than 500 feet to steam railroads. This amendment was secured by the school authorities of Warsaw where a site had been selected by a vote of the people and which seemed satisfactory to all but a very few, but which was within the distance limit named in the law.

The "Tuberculosis Law" introduced by Senator Harmon of Marion County passed, but the appropriation for enforcement was cut out. This law was written by Mr. Harmon without consultation with any one connected with the State Board of Health and not with any official of the Indiana Society for the Study and Prevention of Tuberculosis. The secretary is free to say the bill does not amount to very much and some features of it are very objectionable. The best feature in it is the one which requires that all cases of tuberculosis shall be reported, thus making it a reportable disease. A penalty is prescribed for failure to report. A provision which cannot be fulfilled by the State Board is that requiring the appointment of a special tuberculosis clerk or person to look after the enforcement of the law. This is because an appropriation was refused. A feature which is objectionable is the section which requires formaldehyde disinfection of all premises which are presumed to be infected with tuberculosis. Formaldehyde disinfection is inefficient and had the

author consulted with the authorities he would have inserted the method of disinfection which has been adopted by the U. S. Public Health Service, namely that of washing all wood work with good soap and water, washing or re-papering walls, or re-painting or calcimining as the case may be; also the destruction of such bed clothing as old quilts and mattresses. Old carpets should also be destroyed as well as old window curtains and old window shades. It would be sufficient to require the steaming of blankets and the boiling of sheets. The law is very crude and unsatisfactory, but, of course, it shall be enforced to the limit.

It seems appropriate to record that the usual attack in the legislature was made on the State Board of Health and the secretary. Representative Feick of Dekalb county introduced a bill taking from the Board of Health the power to appoint its own secretary and placing the power with a commission composed of the Governor, Secretary of State and Auditor of State. The bill failed of passage. The said attack called forth loud and persistent opposition from the people. Not a member of the assembly failed to receive letters from his constituents urging opposition to the bill. The Governor was waited upon by delegations from the Chamber of Commerce and from the Indiana Woman's Federation of Clubs and firm protests entered. The Mayors of Auburn and Garrett, the home County of Representative Feick sent letters of protest against the bill and the same were signed by the city councils and other city officials of both cities named. The medical profession became aroused and letters poured in from every county medical society in the state to the Governor and to their respective representatives and senators opposing the bill. Finally the medical profession of the state led by the Indianapolis Medical Society tendered an open state banquet to your secretary in testimonial of the support of the medical profession to the public health cause and in approval of the work of the secretary. The banquet was held at the Claypool Hotel, the evening of March 13 with about 250 in attendance. Governor Samuel Ralston acted as toastmaster and toasts were responded to by Vice President Marshall, who presented the secretary with a testimonial in the form of a beautiful Huxley Vase enclosed in plate glass on a velvet pedestal; U. S. Senator Kern, President William L. Bryan of Indiana University, President W. E. Stone of Purdue University, Miss Vida Newsom, President of the Indiana Federation of Women's Clubs, Dr. Victor C. Vaughan, President of the Amer-

ican Medical Association; Dr. A. R. Craig, Secretary of the American Medical Association, Dr. W. A. Evans, Ex-Health Commissioner of Chicago, and Dr. George T. McCoy, ex-president of the State Board of Health. Dr. Frederick Heath read an original poem.

VISITS OF THE SECRETARY.

The secretary made the following visits: January 19, Ft. Wayne; February 6, Greenfield; February 7, New Castle; February 15, Chicago; February 19, Martinsville; February 23, New Albany; March 2, Evansville; March 16, Milton; March 30, Milford and Warsaw.

February 19, Ft. Wayne.—The secretary visited Ft. Wayne on this date to attend a banquet tendered him by the Ft. Wayne Society of Life Insurance Superintendents. There were about 50 gentlemen present, each one being a superintendent of agencies for his respective life insurance company. The subject of the secretary's toast was—The All Time Health Officer. The association adopted a resolution of thanks, also adopted resolutions endorsing the idea of the all time health officer and promising to write to their members of the general assembly urging them to vote for the bill prepared by the State Board of Health establishing all time health officers.

February 6, Greenfield.—This visit was made upon invitation of Health Officer Allen. We met with the mayor and city board of health and with several physicians to consider the scarlet fever epidemic and also to consider the matter of a Clean Up Day or Public Health Day in Greenfield early in the spring. The secretary believes the visit was attended with good results.

February 15, Chicago.—This visit was to attend the annual Conference of the Council on Hygiene and Education, of which the secretary is a member. The meeting was held in the Gold Room of the Congress Hotel. The Council consists of 100 members and of this number 93 were present. Various subjects pertaining to practical and scientific hygiene and education in preventive medicine were considered. A full report of this meeting will be found in the Journal of the American Medical Association. It is considered unnecessary to give the same herewith.

February 19, Martinsville.—Upon this date the new Martinsville High School Building was dedicated. It was built after two years' fight led by the State Board of Health. The building is two story, of brick with stone foundation and stone trimmings

and is sanitary in every respect. It has a large auditorium built in theater style. Rooms are provided for teaching domestic science and manual training. The schoolhouse is in every way a credit to Martinsville. The secretary delivered the dedication address.

February 23, New Albany.—In obedience to a subpoena from the Public Service Commission, the Secretary attended court on this date at New Albany. The case in question was that of enforcing the order of the State Board of Health requiring the local water company to put in an efficient filtration plant. The secretary was required to take the minute book of the board and produce the same in court and read therefrom the records as pertaining to the case mentioned.

March 2, Evansville.—This visit was made in response to an invitation extended by the Secretary of the Tri-State Farmers' Congress. The membership of this Congress is made up of Farmers from Illinois, Indiana and Kentucky and meet annually in Evansville as the most convenient city of sufficient size to entertain them. Over 5,000 farmers attended the session during the week. The secretary spoke upon Farm Sanitation. Special mention should here be made of the fact that an essay written by the secretary entitled—Rural Sanitation—and read at the International Congress on Hygiene and Demography at Washington, September 23 to 28, 1912, aroused much opposition and some condemnation by farmers institutes. This essay plainly pointed out the insanitary conditions which existed upon the average farm and strongly reprovved the existence of the same. The farmers resented the statements made in the paper and condemned the author but yet it is a pleasure to note that in about three years the sentiment has entirely changed and the secretary was made the special guest of the Tri-State Farmers Congress and was introduced as the "true friend of the farmer who dared to tell us the truth." The secretary's address was cordially received and a vote of thanks was passed.

March 16, Milton.—Milton is a small town of about 1,000 inhabitants in Wayne county, two miles south of Cambridge City. Here was established one of the first women's clubs in the west which has had various names, but is now called the Carey Club after the famous sisters of that name. It was this club that invited the secretary to address it. The meeting was public and held in the Christian Church. It was filled to the doors. An orchestra rendered several selections and then the speaker was

introduced. The subject of his address was "The Making of a Strong Body". The address was well received and a vote of thanks offered.

March 30 and 31, Milford and Warsaw.—On March 30, the secretary went to Milford upon invitation of the school board and the Milford Woman's Civic Club. The high school was addressed in the afternoon upon the subject of the State Board of Health and its work. In the evening an address was delivered to the Woman's Civic Club and its friends. Both addresses were given in the auditorium of the high school building.

On the 31st visit was paid to Warsaw there to meet the Superintendent of Public Instruction, to pass upon a site for the new ward school house which had been chosen by a popular vote. Although the law is not yet in force, still it was deemed expedient and proper after consultation with the attorney general to decide whether or not the site should be legalized as it was less than 500 feet from a railroad. The secretary took the opportunity of this visit at Warsaw to address the high school upon the work of the State Board of Health.

IN REGARD TO INDIANAPOLIS SEWAGE DISPOSAL.

The order of the State Board of Health passed October 9, 1914, concerning the disposal of sewage in Indianapolis was duly served upon Mayor Jos. E. Bell on November 12 and reply requested January 8, 1915. The Board adjourned at 3:50 p. m. and 15 minutes afterward a communication was received from Mayor Bell as follows:

JANUARY 8, 1915.

DR. J. N. HURTY,
*Secretary, State Board of Health,
Indianapolis, Indiana.*

Dear Sir:

In the matter of sewage disposal for the city of Indianapolis, I beg to advise you that the city engineering department is now at work on plans for connecting all intercepting sewers to convey the sewage of the city to one point, either at Sellar's Farm or to a point on the east side of the river. The city engineer reports to me that these plans will be completed in about sixty days.

I have requested Mr. W. A. Pickens, corporation counsel, to prepare a bill to be presented to the legislature in the next few days, empowering the city to construct a sewage disposal plant and providing methods and means of raising money for this purpose. This bill will be presented to you as soon as ready, and the city requests the cooperation of the State Board of Health

in securing its passage. I wish to assure you that the city is doing everything in its power to complete the plans and to let the contract for a sewage disposal plant at as early a date as possible.

Very truly yours,

J. E. BELL,
Mayor.

REPORT OF ASSISTANT SECRETARY.

The following visits were made by the assistant secretary in the quarter just ended:

During the months of January and February I made but few visits on account of the Indiana Child Welfare Exposition which was held at Tomlinson Hall February 16 to 25 of which I was the director and which occupied practically all my time aside from the routine work of the office. The child welfare exposition was participated in by the following state departments:

- State Superintendent of Public Instruction.
- State Bureau of Inspection.
- State Fire Marshal.
- State Board of Charities.
- State Library Commission.
- State Board of Health.
- Indiana University.
- Purdue University.
- Indiana Girls School.
- School for the Blind.
- School for the Deaf and Dumb.
- State Epileptic Village.

The organization also included the following state clubs, societies and social welfare organizations:

- Federated Womens Clubs.
- State Anti-Tuberculosis Society.
- State Medical Association and Marion County Medical Society.
- Indianapolis Dental Society.
- State Mothers Congress.
- State Optometrical Society.

—and the following organizations of the city of Indianapolis:

- The Boys Club Association.
- Boy Scouts and Camp Fire Girls.
- Charity Organization Society.
- Y. M. C. A. both colored and white.
- Y. W. C. A.
- John Herron Art Institute.

Public Library.
 City Board of Health.
 City Recreation Department.
 Childrens Aid Association.
 Flower Mission.
 Public Health Nursing Association.
 Free Kindergarten.
 Indianapolis Public Schools.

—and many other local organizations whose work is in the interest of the children.

The purpose of the exposition as set forth in the literature published by the organization was—"To more fully inform the people of Indiana of the personal meaning of Child Welfare; of the agencies through which Child Life may be conserved; of what the State and its people are doing and what more might be done to safeguard the Child and to challenge the earnest support of public opinion in every rational movement to free childhood from the haunt of preventable disease, the wanton waste of efficiency and the harvest of premature death."

The exhibit that practically filled Tomlinson Hall was shown for ten days from 9 a. m. to 10 p. m. of each day. This exhibit was classified and arranged in a most convenient manner and showed by means of charts, photographs, booths, etc., in plain and simple advertising form, the various phases of child life and child welfare. A campaign of newspaper advertising was carried on through the papers of Indianapolis and of the State. Programs were given each day at 3 p. m. and 8 p. m. These programs consisted of music, physical drills, calisthenics, gymnasium work, etc. A kindergarten was in actual operation each day as was a children's library with books and reading tables and also a childrens' playground. Demonstrations in manual training, domestic science and the various forms of special school work were also shown. Moving pictures were shown each evening. A series of short talks upon health subjects was also given with all lectures illustrated by stereoptican slides. A child's health conference was held each day, in charge of physicians and dentists from Indianapolis, at which medical inspection was demonstrated and parents were advised in regard to the care of children. A complete nursery was shown where babies were cared for and mothers were instructed in the proper care of babies. At the Child's health conference two hundred children were examined by dentists, about one hundred children by physicians and 210 children were

examined by competent oculists for eye defects. The exposition was attended by more than fifty thousand during the ten days it was open. More than ten thousand pieces of public health literature were distributed at the literature booth. The exposition as a whole was a decided success and left an impress upon the community and upon the state that cannot fail to be far reaching in its effect and that has aroused a wholesome interest in child welfare. At the conclusion of the exhibit the material was loaned to the State University to be used through the extension department of the University in putting on similar child welfare expositions in various cities in the State. Plans are now being completed for a Child Welfare Exposition at Evansville, Indiana, beginning April 20th and continuing seven days and at which the exhibit from the Indianapolis exposition will be shown.

A copy of the Hand Book of the exposition, fifteen thousand of which were distributed, is herewith attached with the suggestion that this Hand Book be made a part of the permanent records of the State Board of Health.

INDIANA CHILD WELFARE EXPOSITION.

TOMLINSON HALL, INDIANAPOLIS, FEBRUARY 16 TO 25, 1915.

Free Day and Evening.

GOVERNOR OF INDIANA ON CHILD WELFARE.

Good health—physical, mental and moral—is essential to good citizenship and good government. Everything that promotes health—cleanliness, pure air, rational exercise—strengthens the foundations of society.

Conditions of labor and conditions of amusements directly effect normal well-being, and demand serious consideration. This applies to the young with especial force. The welfare of children is of paramount importance in a free country. The child is father of the man, and the children of today are the rulers of the next generation. Give the children a fair chance, for their own sake and for the sake of the future of the republic.

SAMUEL M. RALSTON,
Governor.

NOTICE.

The exposition will be open to the public each day and evening from 10 a. m. to 10 p. m., except Sunday, February 21st, when it will be open from 1 p. m. to 6 p. m.

"When a little child lies in your arms at night
 What do you care for care?
 When the little lips sing in the evening light
 And the little arms clasp you there;
 What do you care for the pain and the ache
 When a little child loves you for love's sweet sake?"

FOREWORD.

The Indiana Child Welfare Exposition is unique in that it represents the concrete contribution of various state and city departments of government and education, together with various civic and social service organizations, drawn from actual experience, rather than a formal presentation of child welfare in the abstract.

Julia Lathrop, chief of the Children's Bureau of the United States, in speaking of the Indiana Child Welfare Exposition, says: "The Children's Bureau is much interested in your plan, which is most unusual. I have no doubt it will be followed in many other states."

It is the intention to have the exhibit become a permanent State-wide exhibit for use throughout the State. Through the Extension Division of the State University, the exhibit, or at least a large part of it, will be available for display and demonstration in any city or community in connection with what is hoped may become a State-wide movement for Child Welfare.

The general purpose of the Exposition is to present the argument for intelligent community action in preventing child waste, in conserving child life and in safeguarding the interests of the child, which are in reality the interests of the State. The preparation and presentation of the Exposition has been essentially a labor of love, in a spirit of helpfulness, on the part of all concerned. May the Indiana Child Welfare Exposition not fail of its purpose.

A GUIDE TO THE EXHIBIT.

The exhibit on the main floor of Tomlinson Hall is arranged by topics, each topic with its corresponding section representing different phases of Child Welfare.

HOUSING AND HOMES.

In this section is shown the danger line between good and bad housing, photographs of actual Indiana housing conditions, a model home, food and food values, textiles and other housing features. Indiana may be fortunate in that she has comparatively few large cities, yet the modern slum is by no means confined to large cities. In every city, hamlet and even rural section of the State may be found conditions of housing and home life that breed naught but crime, poverty and disease. Mrs. Albion Fellows Bacon, our own evangel of the gospel of housing says: "You cannot teach cleanliness where there is no water; you cannot teach ventilation where there are no windows, and you cannot teach sex hygiene where there is not room enough for privacy, let alone common decency."

SCHOOLS.

This is one of the largest and most complete sections in the exhibit covering the field of the public school in all departments, rural, city, consolidated, vocational, kindergarten, art, music, attendance, parochial schools and open-air school. The entire school section aims to show the work and the problems of the school in carrying out the great purpose of the school, that of building and developing strong, sturdy and well-rounded citizenship. The importance of school hygiene, of health supervision of school children, of the open-air school, of special schools for the sub-normal, of vocational training, the influence of art and music upon the child, the causes of delinquency and non-attendance, the advantages of rural consolidated schools and rural high schools and the importance of community co-operation in every activity of life in any way touching the welfare of the school child are graphically shown in this section. Without health, children cannot be properly educated. Twenty per cent of all school children in Indiana have adenoids or diseased throats; 30 per cent have defective vision, and fully 75 per cent suffer from decaying teeth, besides many other remediable ailments, as illustrated in the exhibit. There is great need for competent medical inspection of school children and even greater need that the purpose and results of medical inspection be thoroughly understood by all the people of the State.

INTERESTS AND IDEALS.

In this section are grouped such activities of child life and youth as play, recreation, social life, physical exercise, games and other correlated activities supplementary to the home and school. The work of the Play Grounds Department, the Y. M. C. A., the Y. W. C. A., the Boy Scouts, Boy's Clubs, Camp Fire Girls and the need of community action in safeguarding these essential activities of childhood are graphically shown. Play is the child's birthright. The prevention-of-cruelty-to-children idea of former years has blossomed into the joy-for-all idea of today, with parks, playgrounds, swimming pools, country trips, libraries and music, with opportunities for developing the highest ideals of usefulness and service. Well-organized play safeguards children from the evils of the street and the evils of idleness. It is needed wherever there are children, whether in city or country. The interests and ideals section gives positive answer to the question: "What shall boys and girls, young men and young women do with their spare time?"

MORAL AND RELIGIOUS LIFE.

Education without spiritual training is incomplete just as life without spiritual purpose is imperfect.

In this section is shown the work of the Sunday school and the good influence of the Sunday school and the church on the life of the child. The best thought of the modern church is being turned toward the education of its children. The co-operation of the church with every wholesome activity of child life and community life is here shown.

KINDERGARTEN—ART—LIBRARY.

On the stage forming the background to the entire exhibit is shown a kindergarten and children's library and the exhibit of the John Herron Art Institute in one composite group, forming a most interesting section of the exhibit.

KINDERGARTEN.

The kindergarten touches child life at the most impressionable age and aims at the fullest development of the child physically, mentally and morally. A kindergarten is in actual operation, giving a living demonstration of play, games, training in obedience, in order, in courtesy and self-control, as well as a demonstration of elementary school work in numbers, in expression and handicraft.

ART.

Art stimulates thought and trains the judgment as well as the hand and the eye. Art is distinctly educational. In the art section are shown typical objects of art interest to school children, together with a display of the activities of the John Herron Art Institute of special interest to children and youth.

LIBRARY.

The Library section is an exhibit of a model children's room of a public library in actual operation with books, reading tables and all necessary equipment. The books have been chosen with special care and constitute a model assortment for children's reading. A printed list of choice books for children is given to all who are interested. This section is in charge of the State Library Commission and the Public Library of Indianapolis.

HEALTH.

The most important material interest of the State is the public health, and the very foundation of this interest is the health of the child. In the last analysis the State will be known not for its broad acres, its smoking furnaces or its commerce, but for the strength and beauty of its children. The keynote of the health section is *prevention*—prevention of infant mortality by concerted community action and by an educated motherhood; prevention of tuberculosis by fresh air, sunlight, good housing and right living; prevention of infectious and contagious diseases by intelligent public co-operation and by adequate city and State appropriations for public health education. The prevention of disease at its source and not the cure of disease, is the viewpoint of modern hygiene and sanitary science. "Public health is purchasable. Within natural limitations any community can determine what its sickness and death rate will be." Every community must realize this fact and realize the necessity of joining in a broad, constructive program of public health work for the future of the State. The exhibits in the health section show plainly the enormous waste of child life and child efficiency every year in Indiana, most of which is preventable. Boards of health, scientists, physi-

cians, dentists and private organizations have shown how this can be done. It is up to the community, the parent, the business man and the taxpayer to say whether Indiana shall determine to reduce its present sickness and death rate. *Health first and low taxes will follow.*

CHARITIES AND CORRECTIONS.

In this section is shown the work of the various organizations dealing with the neglected and dependent child. In Indiana the State Board of Charities and Corrections has general supervision of all State and county correctional institutions, including children's homes. This section shows the work of the Juvenile Court and the problems with which this court must deal in an effort to upbuild character in the court's juvenile charges. The work of organized charity is here shown. The great need of this work must be apparent to any one who studies the exhibit in this section as well as the great need of the closest possible co-operation on the part of all agencies, both public and private, in carrying on this philanthropic work most effectively.

CHILD LABOR.

No child under the age of fourteen may be employed in any store or factory in Indiana. A child under fourteen may, however, sell newspapers on the street at all hours of the day or night except in school hours. The courts have decided that a newsboy is an "independent merchant" and can conduct his business without regard to child labor laws. How can a newsboy or messenger boy protect himself from moral and physical ruin when exposed to the vice and evil of the street and byways at night? The exhibit in this section shows the need of more rigid child labor laws, of a workman's compensation law and of more complete industrial inspection service in Indiana.

RESEARCH AND SOCIAL SERVICE.

The exhibit of the Extension Division of the State University in this section demonstrates the modern idea of the university carrying its message directly to the people of the State. By means of its social survey and social research work the university thus becomes a great central clearing house to correlate and crystallize into definite forward action the ideas and activities of the different communities of the State.

CONSERVATION OF VISION.

The conservation of vision and the prevention of blindness are shown in two sections of the exhibit. In the exhibit of the State Optical Society is shown the necessity of proper care of the eyesight and the results of neglect to properly and intelligently care for children's eyes. In the exhibit on the prevention of blindness it is shown that one-fourth of all blind children are blind because of a single disease, the results of which can be easily prevented by a simple treatment when the child is born. How to prevent blindness and how to take care of the eyesight are shown by means of photographs and charts in this section.

FIRE PROTECTION.

Statistics show that in the United States one school-house is destroyed by fire every day of the school year. In Indiana, no less than 100 fires origin-houses every year. The exhibit of the State Fire Marshal Department shows how fires may be prevented and the consequent menace to child life lessened.

HOME GARDENING.

The purpose of the exhibit in this section is to teach children the economic and esthetic value of making the most of their home and its surroundings. Plans and photographs of actual work done by school children in improvement of home surroundings and cultivation of vacant lots are shown. Gardening is conducive to good health, develops love of home, has a distinct economic value and centers the interests of children in a wholesome activity.

I have at last seen most of America and have observed the springs that move human conduct. I take my hat off to my native State because in the problem of conservation, Indiana puts to the front the conservation of the child.

Good health tends to good morals; good morals to good politics; and good politics to peace, plenty and prosperity. May nothing be done to impede the onward progress of the State of Indiana.

THOS. R. MARSHALL.

SPECIAL FEATURES OF THE EXHIBIT.

INFORMATION.

The Information booth is in the corridor to the right of the entrance. This booth is in charge of St. Margaret's Guild, Miss Jessie Cleaveland, president. A competent person is present at all times to give information in regard to the exhibit, the program or other information desired by those in attendance.

LITERATURE.

The Literature booth is in the corridor to the left of the main entrance and is in charge of a committee of which Mrs. J. A. Bawden is chairman. This booth is well supplied with leaflets and circulars dealing with many phases of child welfare, to be given free to all who are interested. A competent person is in charge of the Literature booth during exhibit hours.

CHECK ROOM.

At the southwest corner of the main floor is a commodious check room where hats, coats and packages may be checked in care of reliable attendants free of charge.

MOTHER'S REST ROOM.

On the elevated section of the main floor to the right is a rest room and conference room for mothers, in charge of the Rest Room Committee of which Mrs. Adolph Schmuck is chairman.

CHILD'S HEALTH CONFERENCE.

This conference occupies the elevated section on the main floor between the main entrances. A schedule of the conferences, in charge of physicians and dentists of Indianapolis, is shown on page 12 of the handbook, and will be followed throughout the exposition. A practical and helpful demonstration of medical and dental inspection of children, with advice and direction as to the proper care and prevention of physical defects, will be a feature of each conference. The services of the conference are free to all.

PUBLIC HEALTH NURSING ASSOCIATION.

The Public Health Nursing Association occupies the section with the Child's Health Conference, with a nurse in charge to assist in the medical and dental inspections.

BABY REST ROOM AND NURSERY.

On the elevated section of the main floor to the left of the entrance is the Baby Rest Room and Nursery, in charge of the Indianapolis Summer Mission. Demonstrations of the proper care of babies will be given here throughout the entire exposition.

SAFETY FIRST.

In the corridor to the right on the second floor is a Safety First exhibit in charge of the Safety First committee of the Chamber of Commerce. "Safety First", like "Health First", should be not only the slogan but the determined rule of action of every citizen of Indiana. Every visitor to the exposition should study the Safety First exhibit.

ILLUSTRATED TALKS.

In the corridor to the left on the second floor will be given a series of illustrated talks on a large variety of subjects pertaining to child welfare, and of general interest to every visitor to the exposition. It is impossible to give a complete list of these talks, but they will be announced from day to day on the bulletin board at the main entrance.

CONTRIBUTIONS TO THE HANDBOOK.

The cover page design is by Harold Haven Brown, Director of the John Herron Art Institute, and is a reproduction of one of the famous medallions on the facade of the Hospital Innocenti for foundling children at Florence, Italy. These medallions are the work of Andrea del Robbia, Italian sculptor who lived A. D. 1435-1525. The Florentine baby, swathed in stiff bandages, has come to be a symbol of Child Welfare throughout the world.

That Indiana should be vitally interested in Child Welfare is shown in sentiments contributed by a number of men whom Indiana delights to honor. Governor Samuel M. Ralston, Vice-President Thos. R. Marshall, Hon. Charles W. Fairbanks, the "Hoosier Poet" James Whitecomb Riley, George Ade and inimitable Abe Martin have given hearty approval to the Indiana Child Welfare movement.

CENTRAL COURT.

The daily afternoon and evening program of drills, folk dances and folk songs will be given in the large central court on the main floor. The four smaller courts will be devoted to demonstrations of school work, domestic science, manual training, kindergarten, rural schools and a model school room.

CLUB WOMEN'S CONFERENCE ROOM.

On the second floor to the right is in charge of the Conference Room Committee. All club women are invited to use this room.

The conservation of the welfare of the children of the State is a work of the very highest moment. The very life of the State rests upon a sound citizenship; sound physically, mentally and morally. We must begin with childhood if we are to succeed in developing the ideal citizen and the best State. A child welfare exhibit is a fine inspiring thing. It is in fact an exhibit of one of the best activities in our midst, for if we properly safeguard the children no one need have any great concern as to the future of Indiana.

CHARLES WARREN FAIRBANKS.

IN CHARGE OF CHILD'S HEALTH CONFERENCE.

PHYSICIANS.

Wednesday, February 17

10:00 to 11:00—J. S. Christie and J. W. Carmack.

2:00 to 3:00—W. P. Best and Homer M. Cox.

7:00 to 8:00—Murry Hadley and H. R. McKinstry.

Thursday, February 18

10:00 to 11:00—Frank C. Stewart and T. W. DeHass.

2:00 to 3:00—Layman Dunning and Kenneth Jeffries.

7:00 to 8:00—S. E. Earp and H. K. Bonn.

Friday, February 19

10:00 to 11:00—Hannah Graham and O. S. Runnels.

2:00 to 3:00—Carl Habich and John F. Barnhill.

7:00 to 8:00—Jane Ketcham and Mary A. Spink.

Saturday, February 20

- 10:00 to 11:00—J. D. Garrett and A. C. Weaver.
- 2:00 to 3:00—W. E. George and C. B. McCullough.
- 7:00 to 8:00—Edgar Kiser and C. F. Neu.

Monday, February 22

- 10:00 to 11:00—H. G. Morgan and David Barry.
- 2:00 to 3:00—George Knue and S. H. McCaskey.
- 7:00 to 8:00—J. H. Taylor and Wm. F. Clevenger.

Tuesday, February 23

- 10:00 to 11:00—E. B. Mumford and O. N. Torian.
- 2:00 to 3:00—W. D. Hoskins and Harry Parker.
- 7:00 to 8:00—D. W. Layman and Wm. S. Tomlin.

Wednesday, February 24

- 10:00 to 11:00—A. W. Brayton and Frank Brayton.
- 2:00 to 3:00—Carl Winter and S. E. Cottingham.
- 7:00 to 8:00—Louis Burekhardt and J. V. Reed.

Thursday, February 25

- 10:00 to 11:00—Eugene Buehler and John Diven.
- 2:00 to 3:00—Ada Schweitzer and J. Don Miller.
- 7:00 to 8:00—Edward A. Willis and Walter Given.

DENTISTS.**Wednesday, February 17**

- 10:00 to 11:00—C. C. Leak and W. E. Beyer.
- 2:00 to 3:00—H. R. Raper and C. S. Emmert.
- 7:00 to 8:00—J. V. Sparks and H. C. Carr.

Thursday, February 18

- 10:00 to 11:00—C. R. Jackson and T. A. Kimberlin.
- 2:00 to 3:00—E. L. Mitchell and B. J. Stembel.
- 7:00 to 8:00—R. O. Sheldon and J. V. Howard.

Friday, February 19

- 10:00 to 11:00—G. Harris and W. E. Kennedy.
- 2:00 to 3:00—G. V. Underwood and W. W. Hardwick.
- 7:00 to 8:00—G. H. Duden and S. J. Carr.

Saturday, February 20

- 10:00 to 11:00—J. F. Applewhite and W. A. Fox.
- 2:00 to 3:00—G. W. Perlee and L. S. Haskett.
- 7:00 to 8:00—A. C. Harvey and E. R. Kibler.

Monday, February 22

- 10:00 to 11:00—F. R. Henshaw and D. A. House.
- 2:00 to 3:00—A. F. Steinheiser and P. F. Schmidt.
- 7:00 to 8:00—C. R. Pease and I. M. Hubbard.

Tuesday, February 23

- 10:00 to 11:00—L. I. Furnas and J. E. Cravens.
 2:00 to 3:00—F. A. Hamilton and J. A. Moag.
 7:00 to 8:00—R. C. Whitmore and J. F. Moyer.

Wednesday, February 24

- 10:00 to 11:00—T. H. Walsh and H. M. Thomson.
 2:00 to 3:00—L. Lapinski and F. K. Kimberlin.
 7:00 to 8:00—R. I. Blakeman and C. D. Lucas.

Thursday, February 25

- 10:00 to 11:00—R. W. Blake and R. L. Bodine.
 2:00 to 3:00—C. G. Cameron and E. D. Cofield.
 7:00 to 8:00—S. F. Gilmore and F. W. La Rue.

"The clew of our destiny, wander where we will, lies at the foot of the cradle."—RICHTER.

INDIANA CHILD CREED.

Every child has the inalienable right to be born free from disease, free from deformity and with pure blood in its veins and arteries.

Every child has the inalienable right to be loved; to have its individuality respected; to be trained wisely in mind, body and soul; to be protected from disease, from evil influences and evil persons; and to have a fair chance in life. In a word, to be brought up in the fear and admonition of the Lord.

That State is delinquent which does not ceaselessly strive to secure these inalienable rights to its children.

PROGRAM.

Tuesday, February 16, 8 p. m.

Addresses by Mayor Joseph E. Bell and Dr. Frank B. Wynn.

PHYSICAL TRAINING.

Demonstrated by Young Men's Christian Association.

1. Maze Run.....
 Combined Classes—Junior High School and Business Boys
2. Indian Clubs.....
 Combined Classes—Junior High School and Business Boys
3. Apparatus Work.....Junior Leaders Corps
4. Marching.....Seniors
5. Relay Races.....High School and Business Boys
6. Mass Games.....Juniors
7. Mass Tumbling.....Picked Squad

**MUSIC BY THE INDIANAPOLIS NEWS NEWSBOYS' BAND, MR. J. B. VANDAWORKER,
DIRECTOR.**

March, The Boy Scouts.....	Jewell
Selection, The Little Cafe.....	Caryll
Somnambula Theme and Variations.....	Thornton
Harry Duncan, Soloist	
Selection, Faust.....	Gounod
Boston Commandery March.....	Carter

Wednesday Afternoon, February 17

PHYSICAL TRAINING.

**Demonstrated by Children's Classes of the Young
Women's Christian Association
Directed by Miss Milcent Hosmer**

1. Grand March.
2. Rhythmic Free Exercises.
3. Folk Games:
 - (a) Swedish Ring Game.
 - (b) Swedish Clap Dance.
 - (c) Chimes of Dunkirk.
 - (d) Kinderpolka.
4. La Mancha (Spanish).
5. Furlana (Venetian).
6. Plyasovaia (Russian)
7. La Petite Coquette (French)
8. America—Six Historical Episodes.

Wednesday, February 17, 8 p. m.

PHYSICAL TRAINING.

**Demonstrated by the Ladies' and Men's Classes of the Sozialer
Turnverein of Indianapolis**

Under the Direction of Mr. Hans Reuter.

1. By Members of the Ladies' Class.
 - (a) Couple Dances in Schottische, Mazurka and Waltz Rhythm.
 - (b) Aesthetic Dancing.
2. By Members of the Men's Class.
 - (a) Running and Gymnastic Dancing.
 - (b) Indian Club Exercises.
 - (c) Exercises on Bucks.
3. By Members of the Ladies' Class.
Folk Dances.

MUSIC BY SHORTRIDGE ORCHESTRA.

- Suite—"A Day in Venice".....Nevin
 (a) Dawn.
 (b) Gondolieri.
 (c) Venetian Love Song.
 (d) Evening.

March—Federal.

Thursday, February 18, 3 p. m.

PHYSICAL TRAINING.

Demonstrated by Pupils of the Benjamin Harrison School of
 Indianapolis.

1. Clubswinging.....Pupils of the 8th Grade
2. Song Games.....Pupils of the 2nd Grade
3. Dumbbell Exercises.....Pupils of the 7th Grade
4. Rhythmic Steps.....Pupils of the 4th Grade
5. Wand Exercises.....Pupils of the 5th Grade
6. Free Exercises.....Pupils of the 5th Grade

Thursday, February 18, 8 p. m.

PHYSICAL TRAINING,

Demonstrated by the Ladies and Men of the Southside Turn-
 verein of Indianapolis.

Under the direction of Mr. Curt Toll.

1. By the Ladies of the Southside Turnverein.
 (a) Gymnastic Dancing.
 (b) Folk Dancing.
 (c) Calisthenics.
 (d) Games.
2. By the Young Men's Class.
 (a) Exercises in Running and Marching.
 (b) Calisthenics.
 (c) Games.
 (d) Exercises on Parallel Bars.

MUSIC BY MANUAL TRAINING ORCHESTRA.

Friday, February 19, 3 p. m.

CONCERT AND GYMNASTIC EXERCISES.

Given by the State School for the Blind.

Friday, February 19, 8 p. m.

EXHIBITION OF FANCY DANCING

Modern Steps

By Miss Dorothy Deschler Griffith.

Assisted by

Miss Margaret Tuttle
Misses Janet and Hildegard Flanner.
Miss Ruth Heywood.
Mr. Miller.

Saturday, February 20, 3 p. m.

RECREATION DEPARTMENT OF THE CITY BOARD OF HEALTH.

1. Calisthenics.....Girls of McKinley School Social Center
2. Calisthenics.....Boys of McKinley School Social Center
3. Calisthenics.....Girls of Brightwood Social Center
4. Calisthenics.....Boys of Brightwood Social Center
5. Calisthenics.....
Boys of Brightwood and Old School No. 34 Social Centers
6. Gymnastic Exercises.....South Side Turnverein

Saturday, February 20, 8 p. m.

PHYSICAL TRAINING.

By Students of the Normal College of the North
American Gymnastic Union

1. Tactic Exercises.
2. Free Exercises without and with Wands.
3. Gymnastic Dancing in Couples.
4. Exercises on Apparatus, including Vaulting.
5. Games.
6. Aesthetic Dancing.
 - (a) Fairy Queen.
 - (b) Silver Star Mazurka.
 - (c) Autumn (Interpretive Dance).

Under the Direction of Mr. Emil Rath, Dean of the
Normal College, N. A. G. U.

MUSIC BY INDIANA UNIVERSITY GLEE CLUB.

Sunday, February 21, 3 p. m.

MUSICAL PROGRAM.

By the Metropolitan School of Music.		
Cornet Choir—"Pilgrims' Chorus".....	Wagner	
"Parade March".....	Wieprecht	
L. E. Peck, Director.		
Voice—"Yesterday and Today".....	Spross	
"The Thunder Birds Come" (from Indian Melodies)		
.....	Cadman	
Miss Mary Moorman		
Piano—"The Fountaine".....	Boscowicz	
Miss Helen Louise Quig.		
Violin—"Aria".....	Vieuxtemps	
Sidney Hawkins.		
Voice—"Love's Rosary".....	Stenhammer	
"The Token".....	Squire	
Ralph Minton.		
Piano—"Valse Militaire".....	Chaminade	
Miss Helena Sipe.		
Voice—Duet—"La Ci Darem Manno".....	Mozart	
("Give Me Thy Hand, Oh, Fairest")		
Mrs. Irva Marshall Morris and Byron Moudy.		
Cornet—"Magnolia Serenade".....	Missud	
Miss Edith Trueblood.		
Voice—"More Regal in His Low Estate" (Queen of Sheba)		
.....	Gounod	
Mrs. P. B. Morrison.		
Violin—"Liebesfreud".....	Fritz Kreisler	
Harry Shepard		
Piano—"Rigoletto".....	Verde Liszt	
Earle Howe Jones.		
Orchestra—"Norwegian Processional March".....	Scharwenka	
Hugh McGibeny, Director.		
(The Pianoforte is a Starr).		

Monday, February 22, 3 p. m.

DAY OF ALL NATIONS.

Under the Direction of Miss Anna Kline.

1. "There Are Many Flags".....Song by All the Children
2. Dance.....Roumanian Girls, No. 5 School
3. Polish National Hymn.....No. 5 School
4. Dance.....Hungarian Children, No. 5 School
5. Austrian National Hymn.....No. 5 School
6. Roumanian National Hymn.....No. 5 School
7. Dance.....Syrian Children from Public School No. 12
8. German Folk Songs.....Lutheran School
9. Italian Song.....

10. Hungarian National Hymn.....
11. Flag Drill.....Roumanian Boys
12. "America".....Song by All the Children

Monday, February 22, 8 p. m.

1. Recreation Department of the City Board of Health
Moving Pictures of Play Grounds, Swimming Pools and
Social Centers.
2. Music by Servian Orchestra.
3. Roumanian Folk Dances in Costume, Foreigners' House.

Tuesday, February 23, 3 p. m.

PHYSICAL TRAINING.

Demonstrated by Pupils of the Indianapolis Public Schools.

1. Clubswinging.....8th Grade Pupils, School No. 9
2. Folk Games.....3rd Grade Pupils, School No. 23
3. Free Exercises.....5th Grade Pupils, School No. 24
4. Indian Club Drill.....7B Pupils, School No. 17
5. Folk Dance.....7th and 8th Grades, School No. 26

Tuesday, February 23, 8 p. m.

PHYSICAL TRAINING.

Demonstrated by the Pupils of the State School for Deaf
Under the Direction of Mr. Hobson and Miss Strebe.

1. Entrance.....
2. Free Exercises.....Girls
3. Tumbling.....Boys
4. Dumbbell Drills.....Girls
5. Exercises with Buck—Gymnastic Games.....Boys
6. Aesthetic Dance.....Girls
7. Indian Clubs.....Boys

Wednesday, February 24 3 p. m.

MUSIC AND DRAMATIC READING.

By St. Agnes Academy.

Wednesday, February 24, 8 p. m.

PHYSICAL TRAINING.

Demonstrated by Pupils of the Indianapolis Public Schools.

1. Dumbbell Drill.....8th Grade Pupils, School No. 17
2. Folk Games.....6th Grade Pupils, School No. 23
3. Fairy Dance.....3rd Grade Pupils, School No. 24
4. Drill.....7th and 8th Grades, School No. 26

MUSIC BY SHORTRIDGE ORCHESTRA.

Overture—"Rheinfels".....	Gruenwald
Cavatina.....	Raff

Thursday, February 25, 3 p. m.

PHYSICAL TRAINING.

Demonstrated by the Second Girls' Class of the Socialer Turnverein of Indianapolis.

Under the Direction of Hans Reuter.

1. Gymnastic Dancing.
2. Free Exercises with Wands.
3. Relay Race.
4. Folk Dancing.

Thursday, February 25, 8 p. m.

PHYSICAL TRAINING.

Demonstrated by Members and Pupils of the Independent Turnverein, Indianapolis.

1. Dumbbell Exercises.....Third Boys' Class
2. Flower Hoop Drill.....Second Girls' Class
3. Wand Exercises.....Active Class
4. Aesthetic Dances.....Advanced Class of Ladies
 - (a) Allegretto.
 - (b) The Hussar.
 - (c) Silver Star.
5. Vaulting Over Buck.....Third Boys' Class
6. Exercises on Parallel Bars.....Active Class
7. High-Class Clubswinging.....Advanced Class of Ladies

MUSIC BY Y. M. C. A. ORCHESTRA.

"Blessed be the hand that prepares a pleasure for a child,
for there is no saying when and where it may bloom forth."—
JERROLD.

"It is a fine thing that Indiana has come to realize that
she honors herself most when she honors her children."—
JAMES WHITCOMB RILEY.

SCHEDULE OF ILLUSTRATED TALKS.

Wednesday, February 17, 2 p. m.

"The Care of the New Born," Dr. J. H. Taylor.

Thursday, February 18, 2 p. m.

"The Milk Supply of the City," Dr. E. B. Mumford.

Friday, February 19, 2 p. m.

"The Importance of Breast Feeding," Dr. J. Divens.

Saturday, February 20, 2 p. m.

"The Prevention of Tuberculosis in Childhood," Dr. Alfred Henry.

Monday, February 22, 10 a. m.

"Care of the Teeth in Childhood," Dr. C. R. Jackson.

Monday, February 22, 2 p. m.

"The Prevention of Colds," Dr. W. D. Hoskins.

Tuesday, February 23, 2 p. m.

"The Care of the Nose and Throat in Childhood," Dr. Overman.

Wednesday, February 24, 2 p. m.

"The Seriousness of the So-called Mild Infectious Diseases of Children,"
Dr. H. G. Morgan.

Thursday, February 25, 2 p. m.

"The Follow-Up System of School Inspection," Miss Paddock.

"The Services of the Public Health Nursing Association to the Child,"
Miss Wilhelmson.

"Social Service for the Child," Miss Edna Henry.

Illustrated talks will be given on many other subjects pertaining to Child Welfare. The subjects and hours will be announced by bulletin at the Exposition from day to day.

THE FRESH AIR SMILE AND WHAT CAUSED IT.

Children, like plants, need plenty of fresh air. The lack of this commodity in quantities paves the way for tuberculosis and a long train of kindred ills.

Indiana, at the time this handbook is published, has just one school for children suffering from tuberculosis. It is maintained on the grounds of the Winona Technical Institute, Indianapolis, by the Marion County Society for the Prevention of Tuberculosis.

In this school are twenty-one pupils. Dressed in warm woolen suits, felt boots and mittens provided by the society, they study and recite in the open air. Zero weather, which often closes other schools, doesn't affect this one.

The pupils are given two warm and substantial lunches at the school each day in addition to their other meals at home. They sleep for an hour at the school during the noon intermission. They are getting well. Records kept by the society show that each pupil has gained in weight. For instance,

one boy gained sixteen pounds in three months. A girl pupil gained eleven pounds in the same period. Their cheeks are getting plump and rosy. Their eyes are getting brighter. Their little bodies are beginning to show the curves that a childish body should show.

This school already is an unqualified success. This means that other Indiana cities will establish similar classes.

"The interests of childhood and youth are the interests of mankind."—JANES.

"The man who is too old to be interested in the happiness and the welfare of all children has lived seventy-five years beyond his usefulness."—GEORGE ADE.

TOO MANY BABIES DIE.

A baby is worth \$1,700.—IRVING FISHER.

7,475 babies under five years of age died in Indiana in 1913. 4,000 at least of these babies could have been saved.

PREVENTABLE DEATHS.

Typhoid fever.....	42	Meningitis.....	75
Malaria.....	25	Infantile paralysis.....	28
Measles.....	40	Syphilis.....	58
Scarlet fever.....	57	Diarrhea and enteritis.....	1,799
Smallpox.....	3	Pneumonia.....	1,094
Whooping cough.....	243	Injuries at birth.....	195
Diphtheria and croup.....	254	Accidents and injuries.....	279
Tetanus.....	13	Diseases of Kidneys.....	52
Tuberculosis (all forms)....	307	"Lack of Care".....	3
Total.....	4,547		

7,475 babies at \$1,700 each.....	\$12,707,500
4,000 babies at \$1,700 each.....	6,800,000

Wouldn't it Pay to go Into the Baby Saving Business

LIFE.

If contagious disease is preventable,

If babies can be saved,

If the home is the nursery of the State,

If the school is the bulwark of the State,

If the child is the hope of the State,

If prevention is better than cure,

If knowledge is waste, unless knowledge saves,

If government is for the benefit of the governed,

Why not take the IF out of LIFE in Indiana?

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INDIANA NEEDS.

Five thousand sanitary school buildings.
 Open-air schools in every city in the State.
 State-wide medical inspection and health supervision of school children.
 Vocational training in all schools.
 Skilled health officers devoting their entire time to public health.
 Adequate appropriations for public health education.
 A law to compel tuberculin testing of all dairy cattle.
 A just Workman's Compensation Law.
 Education and co-operation in fire prevention.
 A public library in every community.
 A study of occupational diseases.
 Hospitals for the care and prevention of tuberculosis.
 Better methods of sewage disposal.
 Pasteurization of public milk supplies.
 Homes, not mere housing.
 "Safety First", safety at least.
 Prevention rather than cure.

ACKNOWLEDGMENTS.

It is impossible to mention all to whom thanks are due for assistance given the Child Welfare Exposition in many ways. The list is lengthening as the Handbook goes to press and will continue to lengthen until the close of the

Exposition. The city departments, the State departments, the public schools, the libraries, the kindergartens, the charitable and social agencies and the members of the various committees have spared no pains in making the Exposition a success. The newspapers of the city and State have given much space in both editorial and news columns. Many have made valuable loans of material to the Exposition and have contributed other services free. Among these should be mentioned:

Bemis Indianapolis Bag Co.
 L. S. Ayres & Co.
 Carpenters' Union.
 Painters' Union.
 W. K. Stewart Co.
 Library Publishing Co., of Chicago, Ill.
 Starr Piano Co.
 State Federation of Women's Clubs.
 Department Club.
 Wm. H. Block Co.
 H. P. Wasson & Co.
 New York Store.
 Kiger & Co.
 Columbia Supply Co.
 Board of Public Works.
 The Lederle Co.
 Library Furniture Co

The annual meeting of the Indiana Congress of Mothers and Parent-Teachers' Association will be held in connection with the Child Welfare Exposition on Thursday, Friday and Saturday, February 18, 19 and 20, at Claypool Hotel. For program, apply at Literature Bureau.

MRS. FREDERIC HOKE,
President.

ABE MARTIN.

Grandmaw Pash says ther's too much tomfollery mixed up in th' raisin' o' children nowadays. She ought to know, she lost eleven.

January 13, 1915, I visited Cayuga and gave a public address in the opera house on "School Hygiene and Medical Inspection." This meeting was held under the auspices of the Cayuga Parent-Teachers Club, with an attendance that completely filled the hall.

February 3, 1915, I visited Lafayette and Lebanon at the request of the school boards of these two cities to make a test of the heating and ventilation installed in the new school buildings.

February 7, 1915, I visited Franklin and gave an illustrated public address in the Christian Church on the Prevention of Tuberculosis.

March 15, 1915, I visited Connersville and met with the school board and their architect to confer in regard to the plans for a new grade school building to be erected in Connersville this summer.

March 16, 1915, I visited Evansville to meet with the various committees having in charge the Evansville Child Welfare Exposition.

March 25, 1915, I visited Auburn and gave a public address in the City Hall on the occasion of Auburn's Annual Health Day. This was a notable meeting because of the fact that the mayors of four cities were present and addressed the people on questions of Public Health.

March 31, 1915, I visited Union City and gave an address in the Christian church in connection with the Community Institute being held by the State University in that city.

April 3, 1915, I visited Ridgeville and gave three addresses in connection with the Community Institute being held by the State University in that city.

The above reports were ordered spread of record.

The letter from Mayor Bell referred to in the minutes of the last meeting on page 324 of minute book was read and considered and ordered filed.

DR. WHITEFIELD BOWERS.

The secretary reported that Dr. Whitefield Bowers, city health officer and secretary of the Michigan City Board of Health had violated the law inasmuch as he had failed to collect and report vital statistics and had failed to answer letters of the State Board of Health. The charge was as follows:

In the case of Whitefield Bowers, city health officer of Michigan City and Secretary of the city board of health of said city, it is charged that on January 23, 1915, a letter was sent by the State Board of Health to said Whitefield Bowers requesting information concerning the death of Clarence Bosket, age 31, who died December 26, 1914, in Michigan City. On the same day and date another letter was written to said Whitefield Bowers making inquiry concerning the death of Arthur Badkey, age 28, who died in Michigan City, December 25, 1914, and said Whitefield Bowers paid no attention to these letters, ignoring the correspondence of the State Board of Health entirely. Dr. Whitefield Bowers has therefore violated the statutes of his state in that he has failed to

answer the letters of inquiry of the State Board of Health concerning these deaths, and the Secretary of the State Board of Health therefore recommends that he be summoned to appear before the State Board of Health upon the above charge, according to the statutes provided and required to show reasons why he should not be discharged.

Upon consideration of the above facts it was

Ordered: That Dr. Whitefield Bowers be summoned to appear before the State Board of Health to answer to above charges at the next regular meeting, July 2, 1915.

Ordered: The the annual health officers school or conference of state health officers be held June 1 and 2, and that the Secretary is directed to prepare a program and to make all arrangements as heretofore, which are necessary for the proper conduct of said conference.

Ordered: That the secretary and any other members of the board who so desire to go, shall be delegates from the State Board of Health to attend the Conference of State Boards of Health with Surgeon General Blue at Washington, May 13 and 14, and that their expenses shall be paid out of the regular appropriation for the expenses of the board.

Resolved, That a committee composed of Drs. Boyers and Freeland shall be appointed to present a memorial or remembrance concerning the public health work of Dr. T. Henry Davis who retires from public health work after forty years of service as city health officer of Richmond, Indiana, and twenty years of service as a member of the Indiana State Board of Health. The said committee to report at the next meeting of the board.

Attorney General Milburn paid the Board a visit and explained the present status of the New Albany Water Company case. He stated that the New Albany Water Company had been summoned before the Public Utilities Commission and had been formally ordered to install an efficient filtration plant and that the said New Albany Water Company had promised to the satisfaction of said Commission to obey its order. The said Commission also promised that a proper advance in water rates from those at present in force would in time be duly ordered. The attorney general also explained that in accordance with the statutes he had brought suit against the New Albany Water Company for failure to obey the order of the State Board of Health

December 17, 1913, that the said company install an efficient filtration plant. He further asked the board to approve any compromise which he might make in regard to the matter. Accordingly the Board passed the following:

Resolved, The Indiana State Board of Health will approve a reasonable compromise of the action now pending against the Indiana State Board of Health in the Marion County Court by the New Albany Water Company and the action pending in the Floyd County Court by the attorney-general, provided that all costs in each of said cases are paid by said New Albany Water Company and a compromise of not less than \$500 is secured.

The following schoolhouses were condemned:

Clark county No. 4, Union township, Fairview school.
 Clark county No. 16, Charlestown township, Otisco School.
 Carroll county No. 5, Madison township, Radnor school.
 Carroll county No. 2, Democrat township, Lexington school.
 Clay county No. 7, Washington township.
 Fulton county No. 1, Richland township.
 Fulton county, Richland township, Sand Hill school.
 Grant county No. 9, Franklin township, Annex school.
 Greene county No. 2, Grant township.
 Greene county No. 5, Jackson township, Owensburg school.
 Hamilton county No. 2, Adams township, Ekin school.
 Hamilton county No. 11, Jackson township, Buffalo Corner school.
 Harrison county No. 8, Blue River township.
 Harrison county No. 6, Spencer township.
 Jackson county No. 12, Salt Creek township, Freetown.
 Jackson county No. 3½, Redding township.
 Jefferson county No. 6, Lancaster township, College Hill school.
 Morgan county, Brooklyn school.
 Marion county No. 9, Perry township.
 Miami county No. 8, Deer Creek township.
 Miami county No. 11, Deer Creek township.
 Martin county No. 4, McCameron township, Old Field school.
 Putnam county High School at Greencastle.
 Ripley county No. 3, Brown township, Friendship school.
 Washington county No. 5, Vernon township, school site.
 Ripley county No. 1, Brown township, Cross Plain school.
 Washington county No. 2, Brown township Mr. Carmel school.

Whereas: The said schoolhouses are duly entered herewith and for each individual and separate schoolhouse a sanitary survey has been made and filed in the office of the State Board of Health, and

Whereas: Each individual and separate schoolhouse as above named has been judged to be insanitary and unfit for school purposes, the same are herewith condemned and the authorities in charge of said schoolhouses are forbidden according to law to use, or occupy or permit to be used said schoolhouses for school purposes after June 15, 1915.

RESOLUTION AND ORDER.

Whereas: The decisions of the Supreme Court of the United States in cases concerning the sale of food transported in interstate commerce and sold in original packages, reserve to officials charged with the enforcement of the federal food and drugs act the authority to regulate the labeling and character of such foods, the chemist to the State Board of Health, who is the State Food and Drug Commissioner, is hereby instructed to follow without exception the regulations for the enforcement of the food and drugs act, promulgated by the Secretaries of Agriculture, the Treasury and Commerce and Labor, in the enforcement of the pure food and drug law, Chapt. 104, Acts 1907, in the case of all food sold in interstate commerce in the original unbroken package.

CORRESPONDENCE WITH THE ATTORNEY GENERAL CONCERNING THE STATE AND NATIONAL LAWS RELATING TO THE SALE OF NARCOTICS.

STATE OF INDIANA.

Ordered Spread on Record.

INDIANAPOLIS, MARCH 25, 1915.

DR. J. N. HURTY,

*Secretary, Indiana State Board of Health,
Indianapolis, Indiana.*

Dear Sir:

I received your letter of March 10th, which reads as follows:

"On account of inquiries from health officers we respectfully request your opinion concerning the Act of 1913 pertaining to sale of drugs and prescribed penalties for violation thereof. This Act was approved March 6, 1913. In Section 1, it appears that

1. The retail pharmacist is only authorized by the present Indiana law to sell narcotics mentioned in the law on a physician's prescription.

2. Every prescription shall contain the name and address of the person to whom prescribed and shall be permanently retained on file and open for inspection.

3. Are retail pharmacists authorized under the present anti-narcotic law to sell to another pharmacist, physician, dentist or veterinarian?

4. The federal law (Harrison Law) provides that a doctor, dentist or any other person dealing in these drugs can only purchase them on an official order blank furnished by the federal government. Now, it seems under the Indiana law the retail druggist cannot supply the physician, dentist, or registered pharmacist any of these drugs on an official federal order because he would be violating the Indiana State law which provides that he can only sell on a physician's prescription which must show the patient's name and address, and which is decidedly different from an official order.

5. From a consideration of both the United States and the Indiana law the following seems to be the true situation: Physicians and dentists cannot legally purchase narcotics from the retail druggist. For if they would offer the druggist a federal official order also a prescription and the druggist would fill both, he would be violating both the federal and State laws. If he filled the federal order only he would be violating the State law, and if he filled the prescription he would be violating the federal law, and as a doctor cannot write a prescription for any of these drugs for dispensing or administering to his patients, the so-called prescription would in reality be an order and, therefore, in violation of both federal and State laws. If the druggist accepted both federal order and prescription, and only supplied half the quantity called for by both order and prescription, the doctor would be held accountable for double the quantity he received.

6. Another inference seems to be—there is no possible way, in which, under the present Indiana State law, a druggist in Indiana, who is duly registered under the State law and registered under the national law can supply a physician, dentist, veterinarian, or another registered pharmacist any of these drugs in any manner whatsoever.

7. Are physicians or veterinarians required to report to the Board of Pharmacy once a month all narcotics distributed or dispensed by them?

Most respectfully requesting your ruling upon these two laws that we may properly direct the health officers of the State."

In reply thereto will say that in my judgment the first and second statements in your letter correctly state the law.

In my judgment retail pharmacists are not authorized under Section 2494 to sell the drugs mentioned in said section to another pharmacist, a physician, a dentist, or a veterinarian, unless such sales are made to them upon a written prescription of a duly registered physician, licensed veterinarian or licensed dentist, in which event each would stand upon the same basis as any individual who was being prescribed for by either a physician, veterinarian or dentist, but, in my judgment, said Section does not authorize pharmacists to sell in quantities to physicians, veterinarians or dentists, that is, to fill their orders for the drugs mentioned in said Act. Said section

does provide, however, that such drugs may be lawfully sold at wholesale by a wholesale jobber or manufacturer upon the written order of a licensed pharmacist, duly registered, practicing physician, licensed veterinarian or licensed dentist, provided such wholesaler, jobber or manufacturer complies with the other provisions of said Act relative to such sale by them.

As we regard the federal and State laws upon this subject each has a separate field to cover and a different purpose to attain. The federal law has for its field the whole United States, and its chief aim and object, as I view it, is to raise revenue. The State law has for its field, Indiana, and its chief aim is to control the sales and uses of certain drugs, and to punish those who violate its provisions, under the police power of the State.

The police power of a State is defined by Cooley, in his Constitutional Limitations, Chapter 16, as cited in the case of *Commonwealth v. Barse*, 132 Mass. 542, as follows:

"The police power of a State extends to all matters which concern internal regulation. It embraces those which affect the lives, limbs, health and comfort and welfare of all in their persons and property. It subjects both persons and property to those restraints and burdens which are necessary in order that the general comfort and welfare may be secured. It prescribes the modes in which it is reasonable that each shall use and enjoy his own property, in order that others may be guarded in the reasonable use and enjoyment of theirs, and thus prevents a conflict of rights, by determining what uses and enjoyments by each are consistent with those to which others are entitled."

It is a matter of fundamental law that the National Congress cannot make police regulations for the protection of the people of the several States. In the case of *Hockett v. The State*, 105 Indiana 250, the court said:

"There is a reserved, and, at the same time, well recognized power, affecting their domestic concerns, remaining in all the States, which the Government of the United States cannot, and has seldom attempted to invade."

So, in my judgment, the federal law is not attempting to invade any power of this State to regulate the sale of narcotic drugs within this State, and is not attempting to give to any persons under Section 2494 a, *supra*, any right they did not possess under it before the passage of the Harrison law. In my judgment, therefore, a federal order blank presented to a pharmacist by a physician, dentist or veterinarian would not authorize such retail pharmacist to make a sale under Section 2494 a, *supra*, if he did not have the right originally under said section, which, in my judgment, he did not have.

In answer to your question as to whether physicians, or veterinarians, are required to report to the State Board of Pharmacy once a month the narcotics sold, I will say that all of Section 2494 a, *supra*, is still in force and a portion of said section reads as follows:

"*Provided, Further, That all persons selling or dealing in cocaine, alpha and beta eucaine, opium, morphine, heroin or any salt, or any compound or any derivative of the foregoing substances, either at*

wholesale or retail, shall once each month, at a time to be designated, by the Indiana Board of Pharmacy, prepare and mail to the Secretary of the Indiana Board of Pharmacy, on blanks to be prepared by such board, a report of all sales of cocaine, alpha and beta eucaine, opium, morphine, heroin, and any salt or any compounds or any derivative of the foregoing substances made during the thirty days preceding such report, and the dates of such sales, the amount sold, and the name of the person to whom such sales were made."

So, under this provision, they must report once a month to the Secretary of the Indiana Board of Pharmacy. As to reports under the federal law, I will say that I do not find any provision in that law requiring them to report to the federal authorities, but Section 2 of said Act does provide that every person who shall accept an order, and every dealer who shall sell, dispense, or distribute any of the drugs named in said Act to a consumer under and in pursuance of a written prescription issued by a physician, dentist or veterinary surgeon, registered under said Act, shall preserve such orders and prescriptions for a period of two years from the day on which such order or prescription is filled, in such a way as to be readily accessible to inspection by the officers, agents, employees and officials hereinbefore mentioned.

So, by way of summary, I will say that in my judgment under our State law, retail pharmacists have no authority upon an order to sell said drugs at wholesale to other pharmacists, or to physicians, dentists, or veterinarians. That it is lawful for such persons to buy at wholesale from wholesale jobbers and manufacturers. That reports must be made under the State law to the Secretary of the Indiana Board of Pharmacy. Under the federal law, reports do not have to be made to federal authorities, but all orders and prescriptions, under the federal law, must be preserved for two years and so kept as to be readily accessible to federal authorities.

Very respectfully,

RICHARD M. MILBURN,
Attorney General.

ELECTION OF OFFICERS.

The president announced his term and that of the Vice President would expire May 6, 1915, and that the term of the Secretary would expire April 14, 1915, and therefore it was in order to elect officers and that names would be received. Dr. Hurty nominated Dr. James S. Boyers for president for the two year term beginning March 1, 1915. The nomination was seconded by Dr. Sutton who moved that nominations be closed and the board proceed to elect. The vote was unanimous for Dr. Boyers and he was declared elected.

Dr. Boyers nominated Dr. Sutton for Vice President for the two years beginning March 1, 1915. The nomination was seconded by Dr. Hurty who moved that the nominations be closed. The vote was unanimous for Dr. Sutton.

Dr. Boyers nominated Dr. Hurty for secretary for the four year term beginning April 14, 1915. The nomination was seconded by Dr. Sutton who moved that the nominations be closed. The election of Dr. Hurty was unanimous.

Ordered: The secretary shall prepare and have published as usual a new book of instructions to health officers containing the laws, the rules and general instructions.

SPECIAL MEETING.

JUNE 1, 1915.

Called to order by President Boyers at 12:15 p. m.

Present: Drs. Boyers, Sutton, Freeland, Kern and Hurty.

The President announced the object of the meeting was for the Board to attend the annual conference of health officers, which was duly ordered at the regular meeting April 9, and to transact such business as might come before the Board.

The secretary announced the Health Officers' meeting at the Severin Hotel was a success, over 200 being in attendance at the first session. Up to 12 m. the program had been carried out with one exception as per arranged and Dr. G. W. Bence, ex-health commissioner of Putnam county, was acting as permanent chairman.

'The Child is the State. Take care of the Child and the State will take care of itself.'

TWENTY-FIRST ANNUAL HEALTH OFFICERS' CONFERENCE HELD UNDER THE AUSPICES OF THE INDIANA STATE BOARD OF HEALTH, INDIANAPOLIS, JUNE 1 AND 2, 1915.

Headquarters at Hotel Severin. All sessions will be held in the Auditorium on the eleventh floor. Certificates of attendance will be ready to give out at close of session, Wednesday, June 2, 2 p. m.

"The child is father of the man, and the children of today are the rulers of the next generation. Give the children a fair chance, for their own sake and for the sake of the future of the republic."—
GOVERNOR SAMUEL M. RALSTON.

PROGRAM.

First Session, Tuesday, June 1st, 10:00 A. M.

Call to Order—

James S. Boyers, President State Board of Health.

ANNOUNCEMENTS COMMITTEES BUSINESS.

Dr. G. W. Bence, former County Health Commissioner of Putnam County, will be permanent chairman of the conference.

Union County's Health Book and What It Has Accomplished—

W. A. Thompson, Health Commissioner, Union County.

The Need of Medical School Inspection and Laboratories in Cities—
Porter Linthicum, Health Officer, Evansville.

QUESTION BOX.

(Write your question plainly and place in Question Box any time.)

"It is a fine thing that Indiana has come to realize that to honor herself she must first honor her children."—JAMES WHITCOMB RILEY.

Second Session, Tuesday, June 1st, 1:30 P. M.

Public Health and Hygiene in Our Public Schools—

George B. Osborn, Health Commissioner, Laporte County.

Some Indiana School Houses—

J. B. Percy, State High School Inspector.

Conference:

Pure Food and Drug Laws—

H. E. Barnard.

Tuberculosis Law of 1915—

W. D. Thurber.

New Legislation—

J. N. Hurty and W. F. King.

Question Box—

"We must begin with childhood if we are to succeed in developing the ideal citizen and the best state."—CHARLES W. FAIRBANKS.

Third Session, Wednesday, June 2nd, 9:00 A. M.

The Kallikak Family—

Dr. Burton D. Myers, Medical Department, Indiana University.

Our Insanity Laws—

Hon. Richard Milburn, Attorney-General of Indiana.

The Prevention of Cancer—

Dr. M. N. Hadley, Professor Clinical Surgery, Indiana University.

General Conference—

Public Health in Indiana.

After full consideration it was

Ordered: The condemnation of the schoolhouse known as District No. 2, Worth Township, Boone County, which was condemned August 25, 1914, is herewith extended to June 1, 1916.

Ordered: The condemnations of the schoolhouses known as District No. 1 and 2, Perry Township, Boone County, which were condemned April 10, 1914, are herewith extended to June 1, 1916.

Ordered: The condemnation of the schoolhouse known as the Shelbyville Colored School, which was condemned July 10, 1914, is herewith extended to June 1, 1916.

Ordered: The condemnations of the schoolhouses known as District No. 2, and 9, South East Township, Orange County which was condemned January 16, 1914, is herewith extended to June 1, 1916.

Ordered: The condemnation of the schoolhouse known as District No. 7, Washington Township, Clay County, which was condemned April 9, 1915, is hereby extended to June 1, 1916.

SCHOOLHOUSES CONDEMNED.

The following schoolhouses were condemned:

Gibson County, Owensville School Building.

Putnam County No. 8, Cloverdale Township, Scrabble Hill School.

Putnam County No. 7, Cloverdale Township, Herbert School.

Whereas: The said schoolhouses are duly entered herewith and for each individual and separate schoolhouse a sanitary survey has been made and filed in the office of the State Board of Health, and

Whereas: Each individual and separate schoolhouse as above named has been judged to be insanitary and unfit for school purposes, the same are herewith condemned and the authorities in charge of said schoolhouses are forbidden according to law to use, or occupy or permit to be used said schoolhouses for school purposes after June 15, 1915.

SCHOOL SITE IN VERNON TOWNSHIP, WASHINGTON COUNTY.

To The State Board of Health:

A brief of proceedings had in reference to a school house site in Vernon township, Washington county, Indiana.—By W. F. KING, Assistant Secretary.

In February, 1914, a frame, one room school building located on the site hereinafter described was destroyed by fire. The trustee, Charles Rutherford, transferred the pupils to adjoining schools and when spring came made plans to construct a new school building on the same site. The patrons of the school petitioned the trustee and the county superintendent to establish a new site but, owing to some opposition and the usual difference of opinion brought about in such cases, the establishment of a new site became involved in a maze of prejudice and confusion. Dr. Charles W. Murphy, county health commissioner was asked to make a sanitary survey of the old site which he did and thereupon condemned the site as being insanitary and unfit for school use. This condemnation was made in legal form, notice being served upon the trustee and a copy of the condemnation order being posted on the school site. The trustee upon the advise of his attorney proceeded to

enlarge the site by purchasing adjoining ground and attempted to improve the site by laying under-ground tile, by filling the lowest part of the site, by constructing some open ditches and by filling the public road running along the north boundary of the site. A number of patrons of the school filed a suit in the Washington circuit court asking that an injunction be issued to prevent the trustee from using this condemned site for school purposes. This case was tried before John Edwards, special judge, at which trial the State Board of Health was represented by Mr. A. W. Bruner and Dr. W. F. King, both of whom had at different times visited and inspected the site. After hearing the testimony on both sides of the case Judge Edwards rendered his decision October 24, 1914, a copy of the decision follows:

State of Indiana, ex rel.

THOMAS P. MASTERSON, *Prosecuting Attorney*,
vs.

APPLICATION FOR RESTRAINING ORDER No. 4571,

CHARLES RUTERFORD, *Trustee Vernon Township*.

Come again the parties as heretofore and the trial of this is again resumed and the court having heard all the evidence and being sufficiently advised in the premises finds for the plaintiff that the site described in the complaint and in this judgment hereinafter set out is not a dry site and such drainage as is necessary to secure and maintain dry grounds for school purposes has not been selected and supplied and that the use of said site for school purposes as said site now is and exists, would be detrimental and harmful to the health of the pupils of any school using said site and against the efficiency of said pupils and the court further finds that conditions on said site as that site now is are causative of disease.

It is, therefore, considered and adjudged by the court that the defendant trustee of Vernon township of Washington county, Indiana, be and he as such trustee hereby is perpetually enjoined from using the following described real estate in Washington county, Indiana, to wit:

A part of the northwest quarter of Section 24, township 2 north, range 2 east and bounded by beginning at the northwest corner of the said quarter thence running east $7\frac{1}{2}$ rods, thence south 14 rods, thence west $7\frac{1}{2}$ rods to the west line of the said quarter thence north 14 rods to the place of beginning as and for a site on which to erect, have or maintain a building for public school purposes while said site is and remains in this present condition as herein above found by the court.

JOHN H. EDWARDS,
Special Judge,

Following this decision of the court the trustee proceeded to secure some additional ground to the east of this site, to put in some additional tiling and to erect thereon a school building. At the request of Dr. Murphy, county health commissioner, your assistant secretary, Dr. W. F. King visited this site and building in company with Dr. Murphy on Wednesday, April 7, 1915. A brief description of the site as it now exists and of the partially finished school building follows:

Additional ground has been added to the site to the east so that the site at present measures approximately $9\frac{1}{2}$ rods east and west by 14 rods north and south and contains approximately 35,168 square feet or little more than three-fourths of an acre. Three 20-inch tile have been laid across the site from southwest to northeast and at the level of the original site for the purpose of carrying the surface drainage from approximately 150 acres lying to the northeast of the site with natural drainage to and across the site. The surface over fully three-fourths of the site has been plowed and the soil thus obtained has been scraped into this low part covering the tile to a depth of from 3 to 4 feet. By reason of this plowing and scraping practically the entire site has been made lower than the surface immediately surrounding. This filled ground has sunken in in three or four places and in one place there is at present a hole 4 or 5 feet in length and 3 or 4 feet in width, extending down to the level of the top of the tile. The public road extending along the north boundary of the site has been raised by filling until it is now above the level of the site. This has been done in an attempt to prevent surface drainage from coming on the site. The site as a whole occupies the lowest ground in that immediate section with higher ground on all sides excepting the outlet immediately to the rear of the school building and at the southwest corner of the site where the surface drainage from the higher ground to the west, northwest, north, northeast, east and southeast finds its natural outlet after having crossed the school house site. This site is undoubtedly insanitary and will continue to be insanitary in spite of all the additions, changes and attempts at drainage that have been made by the former trustee. Immediately to the north of the site and across the road is a depression where water stands and where water will continue to stand and collect notwithstanding the under-ground tiling put in by the former trustee. Immediately to the west and southwest of the site and within 30 feet of the school building is another depression where water stands and this depression is surrounded by a swamp beginning at the boundary of the school house site and extending at least 100 feet to the southwest. The surface drainage from the east over an area the width of the school house site and extending at least 500 feet to the top of a hill, is directly onto the site. The drainage from the north and northeast over an area of at least 150 acres is directly onto the site. The drainage from the northwest and west, over an area equal to the width of the school house site and extending at least 300 feet to the top of a hill, is directly onto the school house site. This site is, therefore, insanitary and unfit because it is poorly drained, because it is low, because it is nearer than 500 feet to swampy ground, because proper play ground cannot be provided and because the site occupies considerably less than one acre of ground. Judge Edwards before rendering the decision given above visited this site and in a statement made publicly in connection with his decision said that he could stand on the site and throw a ball in any direction excepting northeast or southwest which would fall on ground far better adapted to school purposes that the site in question.

The partially completed building stands near the southwest corner of the site and occupies the only portion of the site having natural drainage. The building is a frame construction with one class room and two cloak room built on a concrete foundation with five windows to the north, four windows to the class room and one to the cloak room, with two windows and entrance

to the east and with one window in the cloak room to the south. The concrete foundation has crumbled and can be broken to pieces by hand. The windows are so placed that a black board must be placed on the south wall while the seats must face the east in order to have light from the left. The present trustee states his intention of having the seats face the black board to the south which will bring the light from the rear. The building is ready for plastering but work on the building has been stopped by the present trustee until the status of the site has been established.

It is my recommendation that this school house site be condemned as being unfit, insanitary and a menace to the health and efficiency of the school pupils and that any further attempt to construct or complete the school building on this site be restricted by the State Board of Health by all legal procedure within its power.

After consideration of the above report the schoolhouse site in Vernon Township, Washington County, was condemned and the following order issued:

PROCLAMATION OF CONDEMNATION.

Whereas: It has been shown to the satisfaction of the Indiana State Board of Health that the school house site in Vernon Township, Washington County, Indiana, described as a part of the northwest quarter of section 24, township 2 north, range 2 east and bounded by beginning at the northwest corner of the said quarter thence running east $7\frac{1}{2}$ rods, thence south 14 rods, thence west $7\frac{1}{2}$ rods to the west line of the said quarter, thence north 14 rods to the place of beginning is unsanitary and therefore threatens the health and life of the pupils and interferes with their efficiency, therefore the Indiana State Board of Health, according to the statutes

Orders: That said schoolhouse site in Vernon Township, Washington County, Indiana, described as above, is condemned and shall not be used for school purposes after June 15, 1915, and if any township trustee, or city or town school trustee or teacher, authorizes or uses said schoolhouse for school purposes after said date, he or she or they shall be prosecuted as provided in the law.

Any person mutilating or tearing down this Proclamation shall be prosecuted.

Ordered: The secretary shall represent the State Board of Health at the Anti-Tuberculosis meeting at Chicago June 8 and 9, his expenses to be paid out of the general appropriation for the Board.

Ordered: Dr. William F. King shall be a representative of the State Board of Health to attend the annual school hygiene congress at Oakland, California, August 17 to 22, his expenses to be paid out of the regular appropriation of the board, said expenses not to exceed about \$150. And Dr. King shall make a report of the proceedings of said congress.

Ordered: Dr. Fred J. Prow of Bloomington, Indiana, is appointed on the Indiana State Board of Dental Examiners to succeed himself for two years, beginning June 27, 1915.

LEBANON MATTER.

The secretary reminded the Board that an order had been issued October 9, 1914, to the city of Lebanon that it should cease discharging sewage into Prairie Creek or that the sewage should be purified before discharge, and the same should be accomplished by June 1, 1915. The secretary further reported that his communication to Hon. John B. Shelby, Mayor of Lebanon asking whether or not the order of the Board had been obeyed and if not for an explanation, remained unanswered. And the question was —What should be done in the matter. After discussion it was

Ordered: That the secretary should present all the papers in the matter to the attorney general and execute such written directions as the attorney general might give. The meeting adjourned to meet 8 a. m. June 2.

ADJOURNED MEETING FROM JUNE 1, 1915.

JUNE 2, 1915.

Called to order 8 a. m.

Present: Drs. Boyers, Sutton, Freeland, Kern and Hurty.

The secretary reported the first day's program for the Health Officers' Conference was carried out complete with one exception. This exception was supplied by the secretary who answered questions from the question box. The register showed 289 in attendance.

Ordered: That the expenses of Dr. Ada Schweitzer to attend the Section on Preventive Medicine and Public Health of the American Medical Association at San Francisco June 21 shall be paid out of the appropriation for the State Laboratory of Hygiene, provided the fund will without exhaustion stand the said expenses, and provided fur-

ther that the \$40 which Dr. Schweitzer will receive for her services from the American Medical Association be subtracted from said expenses.

Ordered: The secretary shall ask a ruling of the attorney general as to whether or not the State Board of Health has power to pass rules and enforce the same prescribing the sanitary requirements of doctors' offices; he to explain in his letter to the attorney general there are very many dirty and insanitary doctor offices in the state which are a reproach to the science of medicine and which are also a threat against the public health.

Ordered: The next regular meeting shall be held Friday, July 2, 1915.

There being no further business the board adjourned.

REGULAR QUARTERLY MEETING OF THE INDIANA STATE BOARD OF HEALTH FOR THE THIRD FISCAL AND SECOND STATISTICAL QUARTER.

JULY 2, 1915.

Called to order at 1:00 p. m. by President Boyers.

Present: Drs. Boyers, Sutton, Freeland, Kern and Hurty.

The president announced the meeting was regular and to attend to the business for the third fiscal and second statistical quarter, both ending June 30, 1915 and to attend also to such other business as might come before the Board.

The minutes of the last regular meeting held April 9, 1915, and the Special Meeting held June 1 and 2 were read and approved in each individual part and as a whole.

REPORT OF THE SECRETARY FOR THE THIRD FISCAL AND SECOND STATISTICAL QUARTER.

I am glad to be able to state that the Annual Report of the Board for 1913 has been received from the printer and is being distributed. The manuscript for the 1914 report is not yet ready but will be ready by August 1, because, as frequently stated before, for lack of sufficient office force. I hope the next legislature will permit the purchase of tabulating machines for the statistical department so that our statistics may be more promptly and accurately tabulated.

As in the preceding quarter, smallpox prevailed rather unusually. Eight deaths were recorded for that quarter and 4 deaths for the last quarter.

The secretary upon special invitation visited New Castle and the city council passed an emergency ordinance because of the presence of smallpox, about forty cases being found, that the down-town streets, street cars and public places should be denied to those who will not be vaccinated. The city authorities provided 10,000 vaccine points and appointed vaccinating physicians and gave free vaccination. In this way over 9,000 people were vaccinated. People walked the streets of New Castle with vaccination certificates pinned to their coats obeying the law and the orders cheerfully and with some hilarity.

I feel sure I am warranted in reporting that the birth statistics are growing better, which was also reported for the last quarter. Under the constant investigation and letter writing of Dr. Carter the death reports are kept up to standard and Indiana still has the reputation in the U. S. Census Department at Washington of having the most accurate causes of death reported of any state.

Foot and Mouth Disease has appeared at three places in the last quarter but was easily subdued by the veterinary department. No human beings have been attacked by this disease, at least no cases have been reported.

It is worthy of special notice that there has been three deaths from pellagra during the quarter, one in April and two in May. The said deaths occurred respectively in Vanderburg County, male, 35; Clark County, male, 74; Tippecanoe County, female, 63.

VITAL STATISTICS.

The usual vital statistics for the quarter are given below.

SMALLPOX.

<i>Months.</i>	<i>Cases.</i>	<i>Deaths.</i>	<i>Counties Invaded.</i>
April, 1914.....	449	1	44
April, 1915.....	471	3	35
May, 1914.....	420	1	41
May, 1915.....	268	1	40
June, 1914.....	313	1	30
June, 1915.....	328	0	33
<hr/>			
Total, 1914.....	1,182	3	115
Total, 1915.....	1,067	4	108

TYPHOID FEVER.

<i>Months.</i>	<i>Cases.</i>	<i>Deaths.</i>	<i>Counties Invaded.</i>
April, 1914.....	83	33	26
April, 1915.....	67	18	29
May, 1914.....	79	21	35
May, 1915.....	67	17	24
June, 1914.....	124	31	30
June, 1915.....	70	17	28
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Total, 1914.....	286	83	91
Total, 1915.....	204	52	81

VISITS OF THE SECRETARY.

April 6, Mooresville.—This visit was made to meet with the school authorities and also to make a public address upon the State Board of Health and the Public Health. The audience filled the auditorium of the school building and passed a resolution of thanks and confidence in the work of the State Board of Health.

April 11, Winamac.—This visit was made to deliver a public address upon the public health and meet with the people of Winamac. On Sunday, April 11, a large audience of men was addressed upon the subject of sex hygiene. In the evening the church was filled with a large audience and the general subject of hygiene and the public health was presented.

April 12, Richmond.—This visit was made together with Assistant Surgeon General Cofer of the U. S. Public Health Service in answer to an invitation of the commercial club and citizens. The said invitation requested the cooperation of the State Board of Health in inviting the Surgeon General to have an expert tuberculosis and disease prevention survey made of the city of Richmond. Upon arrival the mayor and the city board of health and a committee on public health of the council were in session and a conference was held. Dr. Cofer promised to use his influence with the Surgeon General to secure a special officer who would remain at least three months in Richmond surveying the situation and giving his advice and help in the matter of improving the health of the city.

April 15, Lafayette.—Upon invitation of the mayor and the committee on public health of the city council and of the Commercial Club, the secretary visited Lafayette and delivered a public address in the auditorium of the new high school building.

April 20, Moores Hill.—In accordance with the invitation of the authorities of the Moores Hill College and the health officer of the town, I went to Moores Hill on April 20, consulted with the health officer and the town board of trustees, and in the evening delivered a public address in the Moores Hill College.

April 25, Elkhart.—This visit was made to consult with the city board of health, the mayor and city council upon drainage, sewers and other sanitary matters. The conference turned out well in every respect. What the authorities of Elkhart will do remains to be seen, but maps were studied and advice was given.

May 20, Sheridan.—This visit was made to Sheridan to deliver an address upon public health. A large audience filling the

Christian church was present. Many questions were asked and answered and a resolution of thanks was passed.

June 6, New Castle.—This visit to New Castle was made for the purpose of conferring with the mayor and city council and the city authorities in regard to smallpox. Forty cases were found, some of them very severe. The city pest house was filled and would receive no more, twelve patients being cared for. A conference was held with the mayor and city council and an emergency ordinance was passed refusing the use of the down-town streets, street cars, and all public places to the unvaccinated. Subsequent information is to the effect that the ordinance was cheerfully obeyed and 9,000 people were vaccinated. The populace joined cheerfully in the work of vaccination, wore certificates pinned to their coats and red bandages on their arms. No real difficulties were met in the enforcement of the ordinance.

June 25, Richmond.—On this date I visited Richmond with Surgeon Perry of the U. S. Public Health Service, who had been detailed by Surgeon General Blue to take up public health work in Richmond as heretofore detailed. Surgeon Perry was duly appointed a regular deputy state health commissioner, supplied with all documents requested and installed in the public health work at Richmond, concerning which full reports will be made in the future.

June 8, Bloomington.—This visit was made in order to deliver a lecture before the student body upon statistics and the public health. There was an audience present of 632. The talk was well received.

June 9, Chicago.—This visit was made to attend the meeting of the Chicago Tuberculosis Association with the delegates of the National Tuberculosis Association who would be on their way to Seattle to attend the annual meeting of the National Association. The advantages of the meeting would be to attend their various sessions and also to visit the tuberculosis dispensaries and the new Chicago Municipal Tuberculosis Sanitarium. It is altogether unnecessary to describe this sanitarium in this place. Its total cost was about \$2,000,000. It has a capacity for 1,000 patients. It is a model in every respect.

June 2, Jamestown.—Upon invitation of the rural Methodist Ministers Association, I went to Jamestown, June 22 to address them upon the important subject of rural sanitation. It seemed to be an excellent opportunity to spread the gospel of rural hy-

giene. Many questions were asked and answered and I believe that a good work was accomplished.

June 24, Ft. Wayne.—Upon invitation of the county council and board of commissioners I went to Ft. Wayne together with Secretary Butler of the State Board of Charities and Corrections. The object of the visit was to consult with the authorities named in regard to a proper location for all the institutions of the county. The authorities had sometime before purchased 800 acres of land east of Ft. Wayne. On this tract they propose to construct eventually a new county poor house, orphans' home, tuberculosis hospital and detention home for juvenile delinquents. The maps of the farm were studied, then a visit to the same was made. The secretary's advice pertained particularly to the location of the tuberculosis hospital and to the sanitary features of all public buildings which might hereafter be constructed.

Ordered: The secretary's report shall be spread of record.

REPORT OF VISITS MADE BY ASSISTANT SECRETARY FOR THE QUARTER ENDING JUNE 30, 1915.

April 6.—Visited Salem, Indiana, in company with Dr. C. W. Murphey, county health commissioner, made an inspection of the school house site in Vernon Township and also called on trustee in reference to the same. This school house site was previously condemned by Dr. Murphey and was taken into the Washington Circuit Court on an injunction proceeding to prevent the trustee from building on the condemned site. The court sustained the condemnation and issued a restraining order prohibiting the trustee from using this site. The trustee however proceeded to erect a school building on the site and this survey was made with the view of having the State Board of Health condemn the site. I also visited two other school houses in this county with Dr. Murphey, both of which have since been condemned by the State Board of Health.

April 8.—Went from Salem to Vincennes to give a number of short addresses before the schools of Vincennes and before a meeting of business men in connection with a community institute under the auspices of the State University.

April 12.—Visited Delphi to confer with the school board in reference to the construction of a new school building.

April 13.—Went to Chicago in company with John J. Walsh, State Factory Inspector, to inspect a number of lead working establishments. This visit was made on account of the necessity for better protection of employees in the Pumpelly Battery Company's Plant at Indianapolis. A member of the Pumpelly Company was with us on this visit and we were enabled by reason of the knowledge gained in Chicago to formulate and have installed in the Pumpelly Plant all the modern equipment necessary to safeguard the health and lives of their employees.

April 15.—Visited Bluffton to make an address before the high school and also an address before the business men of Bluffton in connection with the State University Community Institute.

April 19-20-21.—I spent at Evansville in connection with the Evansville Child Welfare Exposition.

April 23.—Visited Greencastle to make a sanitary survey of the Greencastle high school building.

April 27.—Went to Bennetts Switch and from there in company with the township trustee and county superintendent E. B. Wetherow made a sanitary survey of three school buildings which have since been condemned by the State Board. Also visited Bunker Hill to inspect the new consolidated township high school building.

April 27.—Evening at Lebanon to give a public address in connection with Clean Up Week.

April 28.—Visited Kendallville to give a public address on the prevention of tuberculosis. While in Kendallville had a conference with the school board, superintendent of schools and Architect Weatherhogg of Ft. Wayne in reference to plans and specifications for a new high school building at Kendallville.

May 3.—Visited Marion to make a sanitary survey of the Morton and Sweetser school building. Also had a conference with the superintendent of schools, and architect in reference to the proposed new high school building at Marion.

May 4.—Visited Knightstown and accompanied the trustee to make a sanitary survey of the school building at Raysville.

May 8.—Visited Noblesville to confer with Dr. Thompson, city health officer, in reference to an outbreak of smallpox.

May 11.—Visited Logansport to make an address before the Logansport high school and to inspect the new Logansport high school building.

May 18.—Visited Bloomington to give an address before the students of the State University.

May 19.—Visited Charlestown to take part in a conference with Chas. A. Greathouse, State Supt. of Public Instruction, Samuel Scott, county supt. of Clark County, Elmer Dunlap, architect, Chas. F. Pangburn, trustee and the advisory board of Charlestown township and in reference to the Charlestown school building.

May 24.—Visited Brazil to hold a conference with the Brazil school board and school superintendent in reference to an addition to the present high school building.

June 1.—Visited Dale to confer with the trustee and advisory board in regard to a new school building at Selvin.

June 4.—Visited Richmond to attend the anniversary dinner in honor of T. Henry Davis, Ex-President of the State Board of Health.

June 19.—Visited Brooklyn to confer with the trustee and advisory board in regard a new school building at Brooklyn.

Ordered: The assistant secretary's report shall be spread of record.

The following appreciation of Dr. Davis was adopted and ordered spread of record, and the secretary was directed to transmit a copy of the same to Dr. Davis with the regards and compliments of the Board.

DR. T. HENRY DAVIS.

An Appreciation.

Dr. T. Henry Davis served as a member of the State Board of Health for twenty-four years. He was first appointed May 6, 1891. He was President of the Board during four terms of two years each. His faithfulness is evidenced by the fact that he missed but one meeting during his long service. Dr. Davis was also health officer of Richmond for thirty-two years. It seemed to make no difference what the politics of the State or his city might be, he was reappointed as long as he would serve. This was due to his fitness, his efficiency and faithfulness. Dr. Davis has all his life been deeply interested in preventive medicine. The public health cause is still dear to him although retired from the public service. Dr. Davis was also much interested in other public activities. Whenever a proposition for public betterment was made, he was always present to do his part. He helped forward the parks of Richmond, also street paving, and other ways and means of improving his home city. As a member of the State Board of Health he ceaselessly labored for the health of the people. He wrote many articles, one especially may be mentioned here. It had the simple title of "Hygiene"; and was read before the first health officers' school held in the State. It made a profound impression and has been a guide for the conduct of all subsequent schools.

Dr. Davis determined to retire from membership on the board when he was appointed for his last term, May 6, 1911. He said: "I am not tired, but I am advanced in years. I fear I am lagging, and when this last term expires, I shall have been in the health service of Richmond for thirty-two years and in the health service of the State for twenty-four."

The present members of the board honor Dr. Davis and cherish his friendship and example. His record as a useful citizen, a successful physician and a faithful public servant is firmly established.

LEBANON SEWAGE DISPOSAL.

The Attorney General's Opinion.

STATE OF INDIANA,
INDIANAPOLIS, JUNE 30, 1915.

State Board of Health:

Gentlemen:

I have your letter of June 29, 1915, which reads as follows:

"I have the honor to transmit herewith a transcript of the minutes of the Indiana State Board of Health pertaining to sewage disposal at Lebanon.

The reason for transmitting the same is to request your advice and direction concerning how we shall proceed under the law against the city of Lebanon to compel obedience to the order which was passed at the regular quarterly meeting of the State Board of Health held October 9, 1914. The record shows that said order was duly served and acknowledged. Now, the time fixed for obedience to the order, June 1, having passed and nothing done, the State Board of Health has directed that the secretary shall secure from you advice and direction as to proper procedure for enforcement of said order."

Referring to the record of the case enclosed, I find the following summary of the findings of the State Board of Health as to the condition of the water supply in said city of Lebanon:

"The sewage of the city of Lebanon flows into Prairie Creek and causes a nuisance to the section bordering on the stream.

The water of Prairie Creek is made foul and offensive and unfit for domestic use by reason of the discharge of the sewage of the city of Lebanon into it."

Whereupon, the board recommended that the city of Lebanon be ordered to abate this nuisance by elsewhere disposing of its sewage, or by the construction of a purification plant, and the following order was thereupon issued to the said city of Lebanon:

State Board of Health:

"To the Mayor and Common Council of the City of Lebanon, Boone County, Indiana.

You are hereby notified that the township trustees of Center, Washington and Sugar Creek townships of Boone county in the State of Indiana on the 11th day of February, 1914, made complaint in writing to the State Board of Health charging that the city of

Lebanon, Indiana, is discharging its sewage into Prairie Creek and is thereby materially injuring the character of the water therein for domestic use to the injury of the public health; that after an investigation of said charges the State Board of Health on the 9th day of October, 1914, made and entered of record a finding that said charges are true and an order that said city of Lebanon shall cease the pollution of the water in Prairie Creek by the discharge of its raw and unpurified sewage therein after the first day of June, 1915, and you are hereby requested to acknowledge the service of this notice and to make an order waiving a trial and hearing before the State Board of Health upon the finding and order of the Board."

The record of the case further shows that the Common Council of the city of Lebanon, on the 9th day of November, 1914, acknowledged service of the notice and made an order waiving its right to trial and hearing before the State Board of Health upon the finding and order of said Board.

As I infer from the record and your letter, by June 1, 1915, the city of Lebanon must cease the pollution of water in Prairie Creek by the discharge of its raw and unpurified sewage therein, and, further, that up to this time, the said city of Lebanon is still discharging its raw and unpurified sewage in said creek and has made no attempt to erect a sewage disposal plant or take any other steps towards purifying the water supply of said city. These proceedings were brought under the Acts of 1913, page 63, Chapter 35, being an act concerning the purity of water supply in cities and towns for domestic uses.

The further provisions of this law are that if any municipality or officer thereof upon whom the duty to act is cast, or any other corporation or officer thereof on whom the duty to act is cast, or any person shall fail or refuse for a period of ten days after the expiration of the time fixed by the State Board of Health for compliance with such order, or in cases of appeal, or appeals, for a period of ten days after final judgment confirming the board's order, such municipality shall become liable for and forfeit to the State of Indiana the sum of \$500 to be recovered by the State in a civil action brought by the State of Indiana on the relation of the attorney general and each day's delay shall constitute a separate offense.

I am of the opinion that under the law of the State of Indiana that there is nothing further to be done by your board and that it is my duty at once to bring suit against the city of Lebanon for the enforcement of said penalty which I shall at once proceed to do.

Very truly yours,

RICHARD M. MILBURN,
Attorney General.

In connection with the Lebanon Sewage Disposal matter Mr. M. J. Wood, attorney of Lebanon, asked to be heard. He positively announced the authorities of Lebanon desired and intended in good spirit to fulfill the order of the State Board of Health. Unavoidable delays had occurred. The city council acting as a City Board of Public Works and as in the law provided, has secured plans and specifications for sewer extension and sewage

purification before discharge into Prairie Creek. However, a long delay had been created because of the necessity of condemning and purchasing land upon which to locate the filter beds.

After discussion it was

Ordered: If the city council of Lebanon communicates with the attorney general concerning extending the date of the order, the same will be agreeable to the State Board of Health.

MAUSOLEUMS.

Ordered: When the secretary is called upon to issue a permit to build a mausoleum he shall refuse such permit unless the plans and specifications plainly show that all parts thereof may be readily examined, and the crypts, after dead bodies are placed therein, shall be hermetically sealed in a permanent manner and not supplied with pipes or valves or in any way connected with the outside air.

EAST CHICAGO WATER SUPPLY.

The report* of Engineer J. C. Diggs of an investigation of the public water supply of East Chicago was presented by Mr. Barnard, chemist of the board. Mr. Barnard recommended that an order be issued under the law requiring East Chicago and Indiana Harbor Water Works Company to install a filtration plant or other device by means of which a pure water supply may be furnished to the citizens of the community it serves. He also recommended that said company be ordered to present plans and specifications for such filtration plant within sixty days and to construct and put into operation a plant for purification of the water supply within a period of twelve months.

After full discussion, the following order was adopted:

To the President or Superintendent, of the East Chicago and Indiana Harbor Water Works Company:

Due complaint having been made to the Indiana State Board of Health by the City Board of Health of East Chicago requesting a survey and investigation by the State Board of Health and requesting that such action be taken in regard to filtration and purification of the East Chicago and Indiana Harbor water supply as said investigation and survey might warrant, therefore, said survey and investigation was made by Mr. John Diggs, Water Chemist to the State Board of Health. Said investigation and survey was begun June 2, 1915, considered by the State Board of Health at its last regular meeting, July 2. After consideration the following order was adopted:

Whereas, The State Board of Health of Indiana having been legally petitioned therefor has made a survey and investigation of the public water supply of the city of East Chicago and determined that said public water supply is impure and dangerous to health, and that said public water supply is not filtered, and has determined that a purification and filtration plant is necessary to be constructed by the East Chicago and Indiana Harbor Water Works Company which operates said water supply to render said water supply pure and healthful, said company is

Ordered, To send a brief of its cause or a hearing before the State Board of Health at its next regular meeting October 1, 1915, at 1 p. m. in the offices of the Board in the State House in Indianapolis, to show cause, if any, why the State Board shall not issue an order under the law requiring that purification and filter plants be installed.

SCHOOLHOUSES CONDEMNED.

The following schoolhouses were condemned:

Marion county, District No. 9, Poplar Grove school, Franklin township
Howard county, District No. 4, Ellis school, Center township (shed addition).

Whereas: The said schoolhouses are duly entered herewith and for each individual and separate schoolhouse a sanitary survey has been made and filed in the office of the State Board of Health, and

Whereas: Each individual and separate schoolhouse as above named has been judged to be insanitary and unfit for school purposes, the same are herewith condemned and the authorities in charge of said schoolhouses are forbidden according to law to use, or occupy or permit to be used said schoolhouses for school purposes after July 15, 1915.

After full consideration it was

Ordered: The condemnation of the schoolhouse known Ownesville School in Gibson county which was condemned June 1, 1915, is herewith extended to June 1, 1916.

Ordered: The condemnation of the schoolhouse in district No. 7, Jackson Township, Harrison County, which was condemned January 8, 1915, is herewith extended to June 1, 1916.

Ordered: The condemnation of the schoolhouse in District No. 9, Perry Township, Marion County, which was condemned April 9, 1915, is herewith extended to June 1, 1916.

Ordered: The condemnation of the schoolhouse in District No. 11, Madison Township, Jefferson County, which was condemned April 10, 1914, and extended to June 1, 1915, is herewith extended to June 1, 1916.

Ordered: The condemnation of the schoolhouse in District No. 9, Lewis Township, Clay County, which was condemned April 9, 1915, is herewith extended to June 1, 1916.

Ordered: The condemnation of the schoolhouse in District No. 4, Jackson Township, Boone County, which was condemned April 10, 1914, and extended to June 1, 1915, is again extended to June 1, 1916.

Ordered: Dr. J. L. Freeland and Mr. H. E. Barnard shall represent the State Board of Health at the meeting of the National Association of State and Federal Dairy and Food Officials at Oakland, California, August 2 to 5. The expenses of Dr. Freeland, not exceeding \$150 to be paid from the Board of Health fund, and the expense of Mr. Barnard to be paid from the money appropriated for the Pure Food and Drug Laboratory.

Ordered: Dr. J. N. Hurty and Dr. Will Shimer, and any member of the Board who may elect shall attend the Annual meeting of the American Public Health Association at Rochester in October to represent the State Board of Health, the expenses of all except Dr. Shimer shall be paid out of the Board of Health Fund and the expenses of Dr. Shimer to be paid out of the Laboratory of Hygiene fund.

LABORATORY ANNIVERSARY.

July 1, 1915, was the anniversary of the first decade of the State Laboratory of Hygiene and it was deemed fitting and proper for the State Board of Health to adopt for permanent record a memorial of this important fact.

THE FOOD AND DRUG LABORATORIES.

Note by H. E. BARNARD, Chemist.

It is now ten years since the Food and Drug Laboratories of the State Board of Health started their work.

On July 1, 1905, we had no laboratories, laws were inadequate and there were but two men in the organization, H. E. Barnard and H. E. Bishop. The winter previous the legislature had appropriated \$15,000 for the support

of the Laboratory of Hygiene of which the Food and Drug Laboratories were but a department. Two rooms in the basement of the State House were found available and in these apparatus was installed and work began.

In 1907, after nearly two years of pioneering involving the analysis of thousands of samples of foods and drugs and the disclosure of a most extraordinary state of fraud and adulteration, the legislature passed our present excellent Pure Food Law and appropriated \$15,000 a year for its enforcement. This sum was in addition to the regular appropriation for the Laboratory of Hygiene, and with these funds it was possible to develop the organization of chemists and inspectors.

In 1909, an additional \$5,000 was appropriated for the support of a Water and Sewage Laboratory. This same legislature passed the Sanitary Food Law, the first law of its kind ever enacted in this country and a law which has since been a model for several other States. At this session of the legislature, the Stream Pollution Law, under which many orders have been issued by the Board, was enacted.

In 1911, an additional \$5,000 appropriation for food and drug work was given, making a total appropriation of \$25,000 a year. This legislature also passed the Cold Storage Law, again the first law of its kind to be enacted in the country and now the model law of several States. The Renovated Butter Law was passed by the same legislature and as well, a Weights and Measures Law which gave the Department the control of the weights and measures of the State, although it did not provide any appropriation for the enforcement of the law.

In 1913, \$5,000 per year was appropriated for carrying on the work of the Weights and Measures Department, and the Pure Food Law was further strengthened by amendment. Since that time no additional funds have been granted, but during the ten years the appropriation has grown from a part of \$15,000 per year to \$30,000 per year, and the force from two men to the present extensive organization which today consists of eleven chemists, six inspectors, two clerks, a janitor and a commissioner. The food control constantly uses two men, the drug laboratory two men, the water laboratory two men, while the sanitary surveys are this year using five additional men.

During the ten years 29,743 samples of foods and drugs either collected by the inspectors or sent in by physicians or interested parties for examination, have been analyzed. Every year the percentage of adulteration has decreased. In the Water Laboratory 10,601 samples of water have been analyzed. These 40,000 analyses have been made free of all charges for the people of Indiana.

Every year the work has grown. The present appropriation is too small to properly enforce the many and varied laws which the board is commanded to enforce. While food and drug control has been extraordinarily successful, so successful indeed that the Indiana market is probably freer from food fraud and drug sophistication than the markets of any other State, we have not yet, nor shall we ever, reach the point where supervisory control can be withdrawn. We have proven the honesty of the vast majority of our merchants and manufacturers, but a police organization must always be maintained to regulate the recalcitrant one per cent.

Perhaps the most important phase of the work has been the development of the sanitary control of food factories and distributing plants. We

began such work in advance of other States and it is probable that we have gone farther than any other toward securing for our people a clean and sanitary food supply. We have unsolved problems yet before us. Our milk supply is none too good; our meat supply save for that protected by federal inspection, is still uninspected, and in too many instances is diseased. Hundreds of wells are furnishing polluted water. We are, however, making progress and minor sewage disposal plants are being installed in all parts of the State.

During the ten years passed many knotty problems have been successfully handled. When the study of the purity of the water of Lake Michigan was first begun, every city on the lake was drinking grossly polluted water. At the present time all the Lake Michigan supplies are chemically treated before use. Sanitary surveys of the Ohio river, Wabash river and White river, have been completed, and the quality of the water in the case of the White and Wabash rivers from their source to their mouths and the Ohio from Cincinnati to Evansville have been studied. At Vincennes last year we made the most comprehensive sanitary survey yet undertaken in an American city. Similar work is being carried on this year at Logansport and Noblesville. It is interesting to point out that much of this work is done without expense to the Board. At Logansport all of the expense of the investigation is borne by the city and at Noblesville the city council has generously appropriated funds which will take care of most of the work. At both places most of the men employed are college students or recent graduates, working without salary, but glad of the opportunity to work with us and so to learn something of the methods employed.

In the courts the laboratory work has met with unusual and indeed, with extraordinary success. It is a most uncommon thing to have the judgment of our chemists and inspectors reversed. We have had many hundred cases before the courts and in very few instances have we been defeated. In but one instance has the Supreme Court reversed us and in that case solely because by reason of a palpable defect in law which has since been remedied. Several Supreme Court rulings have established new precedents for food control work. The State Board of Health has defended the most bitter and expensive suit ever brought against State food authorities. The famous benzoate of soda case filed in 1908 to enjoin the State Board of Health from enforcing the food law was bitterly contested. The decision handed down by Judge Anderson of the United States District Court supported every contention of the State and established beyond question the authority of the State Board of Health to exercise its discretion in protecting the health of the consumer. A similar decision in the same case was handed down by the United States Circuit Court of Appeals. It is not probable that the case will ever reach the United States Supreme Court, but if it does we may rest assured that the principles for which we have fought will be there determined in our favor as in the two lower courts.

It is a source of gratification to us to know that with the growth of the laboratory, chemists trained in our departments have left the services of the State to seek other and better positions in all parts of the country. Indeed our laboratories had been a training school for chemists and sanitarians. One of our men is with the State Board of Health of Iowa; another holds a responsible position with the United States Public Health Service; another is

associated with a great drug house of E. Merck and Company. Two others occupy splendid positions in the control laboratories of Sears-Roebuck and Company. Another is at the head of the chemical and manufacturing department of one of our large drug houses. Another is one of the most successful industrial chemists of the country.

It is unfortunate perhaps that the State cannot keep the men it has trained. It is unfortunate that the rewards for public service are not commensurate with those offered in the industries; and yet, every man who has worked in the laboratories of the Board, and who has gone out, has perhaps carried with him something of the spirit which has made our work successful, and wherever he is, is a strong force for better living.

Much good work lies in the future. We must have more legislation. We must control better than now, the milk and meat supply. We must close all dangerous private wells. We must compel a careful examination of all workers with the food supply. It is now a crime for a diseased person to handle food. There is no way by which the crime may be checked or the offender brought to task. The way must be devised. This is the largest problem before the board.

The Weights and Measures control, a feature of our work which has no relation perhaps to the health of the people but which is immensely important, as an economic question, is far from adequate. We have deputy inspectors in some twenty-five cities and counties. Every city and every county should be provided with an efficient weights and measures organization.

In much of our inspection work we have had splendid support from local health officials. Unfortunately this support has been limited to a comparatively few counties and cities. Too many health officers, although they are deputy inspectors, sworn to the enforcement of the food, drug and sanitary laws, have little time and less training to bring to such work. Eventually, trained health officers throughout the State will take up the work where the State inspectors leave off.

Much of the success of our endeavors has been due to the splendid support given by the press of the State. Advance along sanitary lines and a better knowledge of foods and nutrition, a more intelligent use of drugs and medicines comes only after education. Our most efficient instructors have been the newspapers who day after day intelligently, without criticism and always with real interest have preached the gospel of pure foods, standard drugs, potable water and sanitation.

Personally, I want to express my thanks to Dr. Hurty and to the past and present members of the State Board of Health, who from the day the laboratory was opened have constantly supported every phase of our work and by their assistance and encouragement made every member of our laboratory force feel that in whatever they were attempting to do they had the unanimous support and approval of the men and the organization to which they were responsible.

RULES.

After due consideration the following rules were formally and regularly adopted and all previous rules were repealed and annulled.

GENERAL RULES.

RULE 1. County health commissioners, city and town health officers shall familiarize themselves with the State Health Law, the Vital Statistics Law, the Quarantine Law, the Pure Food and Drug Law, and all laws they are to enforce. They shall also familiarize themselves with all the rules of the State Board of Health for the enforcement of said laws. They shall be diligent in discharging their duties, remembering that honor and better pay always follow work that is well done. In June of each year they shall make a sanitary inspection of their respective jurisdictions, making a full record thereof in their regular record books, with which all must be supplied. A copy of the report of said sanitary inspection shall be sent to the State Board of Health by July 15th, following.

County health commissioners shall make a special monthly health report to the State Board of Health by the 8th of each month for the month preceding, and said report shall give the number of cases reported of typhoid fever, scarlet fever, smallpox, epidemic poliomyelitis, diphtheria, and membranous croup; measles, cerebro-spinal fever, tuberculosis, whooping cough, trachoma, contagious ophthalmia (pinkeye), syphilis and gonorrhea; also information concerning epidemics, closing of schools, nuisances abolished, and all obtainable sanitary information. They shall also make quarterly reports of marriages and contagious diseases on the blanks furnished by the State Board. All books of record and documents pertaining to the office shall be kept at the county seat, as other county records are kept.

APPOINTING DEPUTIES.

County health commissioners may appoint deputies in their counties and they are advised to appoint as deputies all city and town health officers, for this will give said city and town officers jurisdiction in the neighborhood of their cities and towns for the benefit of said cities and towns, and they may be called upon at times to aid in county health work. Written commissions of appointment should be given to deputies. Undertakers and druggists make competent deputies in unincorporated towns who may issue burial permits and keep county health officers informed in the health affairs of their respective neighborhoods. The pay of deputies will be any reasonable sum which county health commissioners and county auditors may allow.

County health commissioners shall make such reports to the State Board of Health as may be required by said board and shall answer all letters of inquiry of said board.

VITAL STATISTICS.

RULE 2. *Registration Areas.* The registration areas shall be: County area, which is the area outside of the corporation of cities and towns; the city area and town area, which are respectively, the areas within the corporation of cities and towns.

County health commissioners shall collect and record the vital statistics from the respective county areas, and city and town health officers for their respective city and town areas.

RULE 3. *Deaths.* Blanks for death statistics supplied by the State Board of Health are: Death certificates, special death certificates for coroners,

burial permits, no birth and no death, official envelopes, monthly statement cards. Death record books shall be purchased by local boards of health. The physician in attendance at a death, or the householder, if no physician is in attendance, shall immediately make out a death certificate and personally deliver said death certificate or instruct that it be delivered to the health officer or deputy having jurisdiction who, upon receipt of the same, provided, said certificate is completely filled out, is written in ink or indelible pencil, and is otherwise acceptable, shall make out a burial permit, for which no fee shall be charged. Said burial permit is valid in all parts of the State. When no physician is present at a death, and the householder can not be found, and it is not a coroner's case, the health officer shall make out the death certificate and sign it. All health officers shall immediately copy into their death record books all death certificates they receive which belong to their jurisdictions, and carefully preserving said certificates, shall send them to the State Board of Health, in the official envelopes, on the 4th of each month, for the month preceding, and there shall always be enclosed with the said certificates, a monthly statement card, filled out according to the blanks on said card. In the event any health officer has no deaths to report for his jurisdiction, in any month, then he shall send to the State Board a "No birth or death card" to show the matter of reporting has not been overlooked. If a health officer receives a certificate of death which does not belong to his jurisdiction, he shall, after issuing a burial permit thereon, immediately send said certificate to the officer of the jurisdiction to which it does belong. When a death occurs outside of the State, and the remains are brought into the State for interment, the burial permit shall be based upon the transportation permit, and no record of said death is required.

RULE 4. Births. Blanks for birth statistics supplied by the State Board of Health are: Birth certificates, supplemental report of births, no birth or death cards, official envelopes. Birth record books shall be purchased by local boards of health.

All births shall be reported within thirty-six hours after occurrence upon official birth blanks, by the physician or midwife in attendance, if any, otherwise by the householder; all births for the county areas being directly reported to the county health commissioner, and all births for city and town areas to their respective officers. Health officers shall immediately record births in the birth record books, and on the 4th day of each month, all original birth certificates in the hands of health officers, shall be sent to the State Board of Health. A child born dead at seven months gestation, or over, shall be reported and recorded both as a birth and a death, and a burial permit is required as in the case of a regular death.

In the event the child born is illegitimate, the physician or midwife in attendance shall give as name of the father such name as is supplied by the mother or her friends, but he shall not in any degree be responsible for the same. An illegitimate child takes the name of the mother.

SUPPLEMENTAL BIRTH REPORT.

If a certificate of birth of a living child is presented without statement of the given or christian name, then the local health officer shall deliver to the attending physician, or midwife, or to the mother, or father, a blank "Sup-

plemental report of birth," which shall be filled out by the person receiving same, with the full name of the child, including the given or christian name and surname, as soon as said child shall be named, and said mother or father shall forthwith send or deliver the properly filled out blank to the health officer of the area in which the birth occurred. The original certificate of birth shall not be considered to be complete until such statement of given or christian name shall be filed or the blank returned with the statement, "died unnamed."

RULE 5. *Marriages.* Blanks for marriage statistics supplied by the State Board of Health are: Marriage returns, which are sent direct to county clerks from State board. Quarterly return blanks supplied only to county health commissioners by State board. Marriage record books shall be purchased by local boards of health.

All ministers and other persons authorized to perform marriages, shall report on official blanks, each marriage they may perform, to the clerk of the county wherein the marriage license was issued within three days after the marriage, and the said clerk shall report said marriages to the county health commissioner on or before the 4th day of each month for the month preceding, and the county health commissioner shall record each marriage in the official marriage record book. The county health commissioner shall also, each quarter, fill out the marriage blanks he receives from the State Board of Health and then send said blanks to the State board within ten (10) days after the end of each quarter.

RULE 6. *Infectious Diseases.* Blanks for infectious disease statistics supplied by the State Board of Health are: Report of infectious disease blanks, to all health officers. Quarterly return blanks sent to county health commissioners. Infectious disease record books shall be purchased by local boards of health.

All cases of infectious and contagious diseases which are listed in Rule 10, shall be immediately reported on the official blank to the health officer having jurisdiction by the physician, if any be in attendance, otherwise by the householder or attendant. The health officer receiving said report shall immediately enter the same in his infectious disease record book, and in person or by deputy, establish quarantine, as directed in Rule 11, page 23. All city and town health officers shall preserve the original infectious disease certificates they may receive and send the same to their county health commissioner by the 2nd of each month for the month preceding, and said county health commissioner shall use the same for making up his special report, as commanded in Rule 1.

RECORD BOOKS, STATIONERY, QUARANTINE CARDS, ETC.

RULE 7. All necessary printing, such as letter heads, envelopes, circulars, quarantine cards, etc., shall be paid for by county health commissioners, city and town boards of health from their special health appropriations; and said county health commissioners and boards of health shall also purchase, as needed, official record books as follows: Death records, birth records, infectious disease records, and county health commissioners shall add mar-

riage records. City boards of health, in cities having less than 2,000 population, and all town boards of health, shall purchase combination record books, which contain separate divisions for recording births, deaths and infectious diseases.

BURIAL.

Blank burial permits are supplied by the State Board of Health.

RULE 8. *Burial.* Human remains, exceeding seven months' gestation, shall not be buried without a permit issued by a health officer or deputy, and no permit shall be issued unless the health officer or deputy has in hand a certificate of death properly filled out in ink or indelible pencil. In all cases of death from cholera, bubonic plague, leprosy, typhus fever, yellow fever, smallpox, diphtheria, membranous croup, scarlet fever and cerebro-spinal fever, the funeral shall be strictly private and the burial shall be made according to the rules of the State Board of Health. No public or church funeral shall be held or any person permitted to enter the house containing the remains, except the relatives of the deceased, the minister, the undertaker and his (their) assistants, unless by permission of the health officer.

RULE 9. Buried human remains shall not be disinterred or removed without permission from the State Board of Health, and blank applications for disinterment and removal may be had at any time upon application to said State board.

Disinterment. When disinterment and reinterment is to be made in the same cemetery, no permit is required. Bodies which have lain over one week in a vault are to be regarded as buried, and must not be removed, buried or otherwise disposed of without a permit, provided that bodies in a receiving vault when prepared by a licensed embalmer shall not be regarded as disinterred bodies until after the expiration of thirty days. If remains are deposited in a vault and subsequently removed for burial in the same cemetery, no permit is required.

Quarantine cards shall be purchased by local health authorities from their funds and shall be as ordered in Rule 11.

RULE 10. *Infectious Diseases.* The infectious and contagious diseases which shall be immediately reported to the health officer having jurisdiction and which shall be quarantined are hereby declared to be: Yellow fever smallpox, cholera, diphtheria, membranous croup, scarlet fever, measles, epidemic poliomyelitis, cerebro-spinal fever, typhus fever, bubonic plague, leprosy, pulmonary consumption, typhoid fever, chickenpox, whooping cough, trachoma, syphilis and gonorrhoea.

Provided, pulmonary consumption, typhoid fever, syphilis and gonorrhoea shall not be quarantined as they are to be reported for record and statistical purposes only, and chickenpox, whooping cough, measles, contagious ophthalmia, and trachoma shall be carded to warn the public, absolute quarantine not being required; and PROVIDED, FURTHER, when a case of trachoma is under approved treatment, as it would not then be transferable, said case shall not then be carded, and shall not be excluded from school.

RULE 11. *Quarantine.* Health officers, upon learning in any way of the existence of any disease listed in Rule 10, within their respective areas shall

immediately, in person or by deputy, quarantine the infected house, rooms, or premises, so as effectually to isolate the case, or cases, and the family, if necessary, in such manner and for such time, as may be necessary to prevent transmission of the disease; and whenever a quarantine is established a placard shall be posted in a conspicuous position, giving the name of the disease in letters not less than 2 inches long, and also having upon the card the following notice:

"All persons are forbidden to enter or leave these premises without special permit from the health officer having jurisdiction, and all persons are forbidden to remove or mutilate this card, or to in any way interfere with the quarantine without orders from said health officers."

Violation of Quarantine. Whoever violates a quarantine, either by entering or leaving the quarantine area, or demolishes or tears away the ropes or other marks whereby the boundaries of a quarantine are defined, and whoever tears down, obscures, destroys, mutilates or defaces a quarantine placard, or who breaks a quarantine in any way whatsoever, except as provided in Rule 13, shall suffer the penalty prescribed in Section 3 of Chapter LXXXLLL of the Acts of 1903, to wit: A fine of \$10 to \$50, to which may be added imprisonment in the county jail not exceeding six months.

RULE 12. When visiting patients known to be sick with smallpox, scarlet fever or diphtheria, health officers, nurses, undertakers and attending physicians shall take reasonable precautions against carrying infection.

RULE 13. *Observing Quarantine.* No person other than licensed physicians, undertakers or nurses, in the discharge of their duties may enter or leave any house or building infected with any communicable disease listed in Rule 10, without first procuring permission from the health officer having jurisdiction, and obeying absolutely his directions as to all sanitary precautions which he orders.

RULE 14. *Travel Forbidden.* Any person who is, or who has been recently affected with any communicable disease, listed in Rule 10 (excepting those in which absolute quarantine is not required), shall not be permitted to travel in railway or trolley cars or appear upon the public streets, or highways, or to appear in any public place or gathering, or to travel in any public vehicle or vessel, until a certificate is issued by the attending physician to the health officer within whose jurisdiction the case occurs, stating that all danger from infection or contagion by reason of such disease, is passed, and such certificate is approved and endorsed by said health officer, and written permission is given to the person.

RULE 15. *Physician Not in Attendance.* Whenever a health officer shall know or suspect or be informed of the existence of any communicable disease dangerous to the public health, and no licensed physician is in attendance, or should said physician while in attendance fail or refuse to immediately report such case to the health officer, it shall be the duty of said health officer, or deputy, to examine such case or cases of alleged communicable disease dangerous to the public health, and act as required by the rules governing such cases of communicable disease.

RULE 16. *Smallpox Quarantine.* In all cases where there has been an exposure or a suspected exposure to smallpox of any person or persons, it shall be the duty of the health officer under whose jurisdiction said person or

persons may be temporarily or permanently residing, to quarantine for fourteen days or keep under observation such person or persons as may be exposed or suspected of having been exposed to smallpox, and to advise vaccination or re-vaccination of all who may have been exposed. It shall be the imperative duty of the health officer to enforce this rule, and in case of refusal or neglect by said health officer to comply with the requirements of this rule, or other rules, it shall be the duty of the Secretary of the State Board of Health to assume charge, and either in person or by deputy, enforce the foregoing rules. All vaccinations shall be made with non-humanized virus, the only exception being that, during an epidemic of smallpox, should a sufficient quantity of bovine virus not be obtainable, humanized virus may then be used when sanctioned by the board of health under whose jurisdiction said epidemic may occur. If in the judgment of the health officer, it is deemed safe for an exposed person to be at liberty after vaccination and after disinfection in body and apparel the said exposed person shall be given a certificate of health and not be placed in quarantine. If the said exposed person changes his or her location, the health officer having jurisdiction shall inform the health officer at the new location.

DISINFECTION.

RULE 17. *Sublimate Disinfection.* The room and, if necessary, the entire house in which there has been a case of any contagious disease listed in Rule 10, shall be immediately disinfected following the recovery of the sick or the removal of the remains, by any of the following methods, to wit:

All surfaces shall be thoroughly washed with a solution of corrosive sublimate of the strength of one part in 1,000 parts of water. (Corrosive sublimate 1 ounce, water 8 gallons.) The walls and ceiling, if plastered, should be brushed over with this solution, after which they should be covered with lime wash, or paint. Especial care must be taken to wash away all dirt from windows ledges and other places where it may have settled, and to cleanse thoroughly crevices and out-of-the-way places. After the application of this disinfecting solution and an interval of twenty-four hours or longer, for free ventilation, the doors and woodwork should be well scrubbed with soap and water, and this should be followed by a second more prolonged exposure to fresh air admitted through open doors and windows. School books or books from a circulating library shall not be removed from any house during the prevalence of any contagious disease dangerous to the public health and if such books have been in such houses during the prevalence of said diseases, they shall be destroyed by the owner or library authorities or be properly disinfected before returned to schools or put in circulation.

Formaldehyde disinfection may be used instead of above method as follows:

Washable Articles. Into a tub or other receptacle of appropriate size, put enough water to cover the handkerchiefs, towels, napkins, sheets, blankets, or other washable articles, and to each gallon of water used, add one gill (four fluid ounces) of 40 per cent formaldehyde solution. Stir the water and formaldehyde together and then put in the articles. Let soak for not less than one hour, then launder as usual.

Unwashable Articles. Quilts, comforts, pillows, mattresses, carpets, rugs, clothing, etc., if old and dirty, should be burned, otherwise may be disinfected by placing them in a box, closet or tight room that is itself to be disinfected, and then filling the room with formaldehyde gas and moisture.

Room Disinfection. 1. Carefully close all windows and doors, except one door for exit. Paste paper over stove-pipe holes, and apply wetted paper or, better, paste paper strips over all windows, transom or door cracks. In a word, seal the room tightly with paper strips from the inside.

2. Open closet doors, drawers, trunks, boxes, etc. Suspend clothing and bed clothes upon lines stretched across the room, or spread out on chairs or clothes horse. Books must be opened and the leaves spread. In short, the room and its contents must be so disposed as to secure free access of gas to all parts and all objects.

3. Make the air in the room damp; this is absolutely necessary for disinfection, either by sulphur or by formaldehyde. Dampness may be produced (a) by boiling water on a gas, gasoline or oil stove; (b) by pouring boiling hot water from a teakettle into a tub; (c) by pouring hot water onto bricks or stone, or by dropping hot bricks or stones into vessels containing water. Under no circumstances is efficient disinfection possible without in some way making the air of the room quite damp.

4. Measure the room and multiply the length, breadth and height together. This will give the contents in cubic feet. Divide by 1,000 and this gives the number of thousand cubic feet in the room. This is called the unit space.

5. For each 1,000 cubic feet (unit space) use two pints of formaldehyde and $6\frac{1}{2}$ ounces of commercial permanganate of potassium. Procedure: Place a large washbowl, crock, tin dishpan or galvanized iron pan or tub in the center of the room. Put in the required amount of formaldehyde. Permanganate must be put in first. Retire immediately after pouring in the formaldehyde, for the formaldehyde gas is promptly released and is injurious if breathed in any quantity. Keep the room closed for at least three hours, then open, air thoroughly, and clean in the usual way.

Solidified formaldehyde in candle form may be used for gaseous room disinfection, using not less than one ounce of solidified formaldehyde for each 1,000 cubic feet, not neglecting moisture in the room.

Disinfection of Clothing or a Few Articles. Take an empty trunk, wooden box or wash boiler. On the bottom lay any article. Cover with towel or a piece of wash goods, and sprinkle thereon two tablespoonfuls of 40 per cent formaldehyde solution. Then put in another article, say a pair of trousers or a dress skirt, cover as before and again sprinkle two tablespoonfuls of formaldehyde. If there are enough articles the boiler or trunk may be filled in this way. Finally put on the cover to the boiler or close the trunk, and in ten hours open and hang out in the air and sunshine. If the smell of the formaldehyde persists, a little aqua ammonia sprinkled on the clothes will remove it.

Disinfection by Sulphur May be Used as Follows. Place a tub containing about 2 inches of water in the room. Put two bricks in the tub and on them place an iron or tin pan or a stone crock, and in the pan or crock, place three pounds of sulphur for every 1,000 cubic feet. Now fill the room with steam. When the room is full of steam, pour a spoonful of alcohol or coal oil into the sulphur and set on fire. The sulphur is burned to a gas and

this gas, in the presence of the steam, kills all infection. Sulphur gas without steam is worthless. Do not, on any account, leave out the steam. "Sulphur candles" purchasable at drug stores are all right if enough are used, but they are more expensive than ordinary sulphur and of course must have steam as ordinary sulphur.

A Standard Disinfectant. Dissolve chloride of lime of the best quality in pure water in the proportion of six ounces to the gallon. Keep in a stone jar or jug. Use one quart of this solution for each discharge from a patient suffering with any contagious or infectious disease. Mix well and leave the vessel for an hour or more before throwing in privy vault or water closet. The same for vomited matter. For a very copious discharge, especially in typhoid fever, use a larger quantity; and for solid or semi-solid matter, use the solution in double strength. Discharges from the throat and mouth should be received into a cup half full of the solution, and those from the nostril upon soft cotton or linen rags which should be immediately burned.

RAILWAYS, STEAMBOATS AND ALL COMMON CARRIERS.

RULE 18. No common carrier or any person shall knowingly bring into the State of Indiana any person sick or suspected of being sick, with Asiatic cholera, smallpox, yellow fever, typhus fever, diphtheria, membranous croup, scarlet fever, bubonic plague, leprosy or other communicable disease dangerous to the public health.

RULE 19. When any railway car, steamboat, vessel or other conveyance, coming from a place or locality declared by the State Board of Health, or other health authority having jurisdiction, as being infected with cholera, smallpox, typhus fever, bubonic plague, leprosy, scarlet fever, measles, diphtheria, membranous croup, yellow fever, cerebro-spinal fever, or having on board any person or persons affected with any of the above named diseases, enters any port or place in the State of Indiana, such railway car, steamboat, vessel, or other conveyance and the crew, officers, passengers, baggage, merchandise and freight shall be subject to such inspection, disinfection and control as may be ordered by the State Board of Health.

RULE 20. If any person is found on any railway car, steamboat or other conveyance, who is sick, or reasonably supposed to be sick, with cholera, smallpox, typhus fever, bubonic plague, leprosy, yellow fever, cerebro-spinal fever, cerebro-spinal fever, diphtheria, membranous croup or scarlet fever or measles, he or she shall be immediately removed by the health authorities within whose jurisdiction such person is found and isolated and properly cared for until the termination of the disease, and the necessary expense of such isolation and care (if the person so removed is unable to pay the same) shall be a valid claim against and be refunded by the owners, agents or assigns of the railway car, vessel or other conveyance from which such person or persons were removed.

RULE 21. In case of smallpox, all persons reasonably suspected of having been exposed thereto, shall be removed from such railway car, steamboat, vessel or other conveyance and disinfected in person and apparel, and held in quarantine until such time as the State health commissioner or health officer having jurisdiction shall deem it safe to the public. In case of typhus fever, all persons reasonably suspected of having been exposed thereto, shall be

removed and isolated for twenty-one (21) days from the last exposure. The clothing of persons so removed and all baggage, luggage, freight or merchandise found on any railway, steamboat, vessel or other conveyance, on which there is any person sick with cholera, smallpox, typhoid fever, cerebro-spinal fever, bubonic plague, scarlet fever, measles, or diphtheria and reasonably suspected of having been infected, shall be at once disinfected or destroyed, and such railway car, steamboat, vessel or other conveyance shall also be disinfected, according to the rules governing disinfection.

RULE 22. When deemed necessary by the State Board of Health, to prevent the spread of cholera and after ten (10) days' notice, each and every railway car, traction car, steamboat, vessel, in or coming into the State of Indiana, and used for the transportation of passengers, shall be provided with means satisfactory to said board of health for disinfecting the excreta of passengers and crew.

RULE 23. It shall be the duty of any conductor of any railway or traction car, and the master of any steamboat or vessel, to notify immediately by telegram, or telephone, the Secretary of the State Board of Health at Indianapolis, of any case or suspected case of cholera, smallpox, yellow fever, cerebro-spinal fever, diphtheria, scarlet fever, measles, bubonic plague or typhus fever occurring on board such train or electric car, boat or vessel, within the limits of the State of Indiana.

RULE 24. Retiring Health Officers. Retiring health officers shall keep possession of the books of their offices for ten days after expiration of their terms in order to make up reports for the last month of their incumbency, and, after said ten days, the said books, including book of instructions and all blank forms, shall be delivered to the new incumbent, who shall immediately bring them up to date. Boards of health shall withhold the last month's pay of retiring health officers until all books are properly turned over and all reports properly made.

RULE 25. Penalties. Any person or persons, or any board of health, or health officer, or corporation violating, failing or refusing to comply with either or any of the foregoing rules, will be subject to the penalties provided in the health statutes, wherein these rules are authorized, and shall be prosecuted for such violation or neglect according to the law.

RULE 26. Appeal. In case any person feels aggrieved at any act or decision of a health officer, appeal may be made to the State Board of Health in session or to its secretary, but pending such appeal the act or decision of said health officer shall stand.

RULES GOVERNING QUARANTINE AND EXCLUSION FROM SCHOOLS.

RULE 27. Quarantine. The infectious and contagious diseases which shall be immediately reported to the health officer having jurisdiction and which shall be quarantined are hereby declared to be: (See Rule 10.) Yellow fever, smallpox, cholera, diphtheria, membranous croup, scarlet fever, measles, typhus fever, bubonic plague, leprosy, cerebro-spinal fever, epidemic poliomyelitis, pulmonary consumption, typhoid fever, chickenpox, whooping cough, trachoma, contagious ophthalmia (pinkeye) syphilis and gonorrhea. Provided, pulmonary consumption, typhoid fever, syphilis and gonorrhea

shall not be quarantined, but are to be reported for record and statistical purposes only. Chickenpox, whooping cough, measles, contagious ophthalmia and trachoma shall be carded to warn the public, absolute quarantine not being required. And provided further that when a case of trachoma is under approved treatment as it would not then be transferable, said case shall not then be carded and shall not be excluded from school. When quarantine has been established as provided by law the quarantine card of flag shall remain in place until after the patient has been removed from such house or has recovered and is no longer capable of communicating the disease, and the house and contents thereof have been properly disinfected by order of the health officer having jurisdiction.

RULE 28. Duty of Attendants. Every physician attending a person affected with any quarantinable disease shall use every precaution to prevent communicating the disease to others. To this end the board recommends that a cap and gown, linen duster, rubber coat or other sufficient cover for the clothing be worn. Before leaving the premises the hands and face should be cleansed with soap and water and a disinfecting solution. The coat, cap, antiseptic soap and bottle of disinfectant should be carried in a special receptacle which should contain a quantity of cotton constantly wet with formaldehyde. Health officers and attending physicians should give full and explicit instructions to parents, nurses and attendants concerning every precaution to be taken against the spread of infectious disease.

RULE 30. Period of Quarantine and Exclusion from School. The minimum period of isolation, quarantine and exclusion from school in contagious diseases recommended by the State Board of Health, shall be as follows:

Smallpox. For the patient, quarantine for not less than twenty-one (21) days after the beginning of the disease and until all crusts and scales have fallen off or been removed, and the disinfection of patient, clothing and premises. For exposed persons, quarantine for fourteen (14) days from date of last exposure unless successfully vaccinated or protected by a previous attack of the disease, and person and clothing have been disinfected: Provided, That persons who have not been previously vaccinated and who shall submit to vaccination may be released from quarantine after disinfection of person and clothing when it has been shown that such vaccination is successful. Exclusion from school for seven (7) days following the removal of quarantine.

Scarlet Fever. For the patient and children in the family with the patient, quarantine for not less than twenty-one (21) days after the beginning of the disease. Exclusion of the patient and children associated with the patient, from school for ten days after removal of quarantine. Other children of the family may, at the discretion of the health officer having jurisdiction, be disinfected and removed to another house and shall there be isolated and excluded from school for a period of ten days and then released, provided they remain free from the disease. For adults living in the family with or exposed to the patient—While the house remains quarantined, unless said adults submit to thorough disinfection of the body and clothing and do not come in contact with the patient.

Diphtheria. For the patient, quarantine until the secretions from the nose and throat are free from the diphtheria infection as shown by bacteriological examination of such secretions. For children associated with

or in the family with the patient, quarantine until death or recovery of the patient and disinfection of person, clothing and premises: Provided, That other children of the family who shall receive an immunizing dose of antitoxin of not less than 1,000 units, may be released from quarantine at the discretion of the health officer having jurisdiction, after disinfection of person and clothing. The patient shall be excluded from school until a medical certificate that the nose and throat are free from infection, based upon bacteriological examination, is furnished. Children associated with or in the family with the patient shall be excluded from school for seven (7) days after release from quarantine unless a medical certificate of having received an immunizing dose of not less than 1,000 units of antitoxin is furnished. Adult members of the family may be relieved from quarantine at the discretion of the health officer having jurisdiction, on the condition that they be disinfected in person and apparel and remain away during the quarantine period.

Cerebro-Spinal Fever. For the patient, isolation from the rest of the family and quarantine for not less than fourteen (14) days after the first appearance of the disease until death or recovery of the patient and disinfection of the premises. Persons living in a house where the disease is present shall not mingle with the general public until the disease has terminated and the premises have been thoroughly disinfected. And children from said house shall be excluded from school during the quarantine period.

Measles. For the patient, isolation and quarantine for not less than fourteen (14) days and until peeling or desquamation has ceased. Patient shall not be permitted to attend school for five (5) days after quarantine has been removed. For other members of the family, quarantine is not required, but children in the household must not attend school or other public gatherings or mingle with other children unless satisfactory proof shall be furnished to the health officer having jurisdiction of their having had the disease, in which event the said health officer may, at his discretion, permit the said children to attend school and other public gatherings.

Whooping-Cough. For the patient, isolation and quarantine for not less than five (5) weeks from the beginning of the disease and until the "whoop" has entirely ceased. For other members of the family quarantine not required, but children of the same household must not attend school or other public gatherings or mingle with other children, unless satisfactory proof shall be furnished of having had the disease, in which event the health officer having jurisdiction, at his discretion, may permit attendance at school.

Chickenpox. For the patient, quarantine for not less than fourteen (14) days from the beginning of the disease and until all scales and crusts have disappeared. Children living in houses where the disease exists are to be excluded from school two (2) weeks unless satisfactory proof of having had the disease is furnished.

Epidemic Poliomyelitis. For the patient, isolation and quarantine for not less than twenty-eight (28) days from the beginning of the disease. For other members of the family, at the discretion of the health officer having jurisdiction: Provided, That the wage earners may be allowed to attend to their work by observing the precautions ordered by the health officer. Other children in the family shall not be permitted to attend school or public gatherings or to mingle with other children for a period of fourteen (14) days after the beginning of quarantine.

Trachoma. Cases of trachoma shall be excluded from school until the patient is placed under approved treatment and such cases shall be re-admitted to school only upon certificate from the health officer having jurisdiction that the cases are under approved treatment.

Contagious Ophthalmia. Cases of contagious ophthalmia shall be excluded from school until recovery is complete and shall be re-admitted to school only upon certificate of the health officer having jurisdiction.

RULE 30. *Disinfection of School Room.* When it is known that a person has attended school while suffering from any of the following named diseases: Measles, scarlet fever (scarlatina), diphtheria (membranous croup), small-pox, cerebro-spinal fever, epidemic poliomyelitis, cholera, or bubonic plague, the local health officer shall cause the school room occupied by such person to be thoroughly disinfected according to the rules of the State Board of Health, before being used again for school purposes.

RULE 31. *Exclusion From School.* When a case of contagious disease is reported it shall be the duty of the health officer having jurisdiction to ascertain the school attended by any child or children from the infected premises and to serve notice upon those in charge of such school, requiring that all persons from such infected premises be excluded from the school until a medical certificate with a written permit from the health officer is presented.

RULE 32. *Notice to Health Officers.* When a person affected with any of the quarantinable diseases has recovered and is no longer able to communicate the disease to others, or has died, the attending physician shall notify the health officer, and as soon thereafter as the health officer deems it advisable the house in which such person has been ill and the contents thereof shall be thoroughly disinfected by the health officer or his deputy, and the quarantine released.

RULE 33. *Food and Food Products.* The sale or use of milk or dairy or food products from the premises where one of the quarantinable diseases exists or where typhoid fever is present is strictly forbidden unless the milk, dairy or food products are handled, cans and pails washed and stock cared for by persons entirely segregated from the affected person and family, and then only upon permission of the health officer having jurisdiction.

RULE 34. No milk bottles shall be taken from premises on which a quarantinable disease exists until after the quarantine has been raised and said bottles have been thoroughly cleansed and disinfected by order of the health officer. Milk tickets and bread tickets shall not be taken away from such premises while the premises are under quarantine. Cats and dogs and other domestic animals belonging to premises under quarantine shall be kept out of the house and from contact with the patient. Should these precautions not be observed strictly, it shall be the duty of the health officer to cause such domestic animals to be destroyed.

SANITATION OF SCHOOLS.

Rules of the Indiana State Board of Health governing the Sanitation of Public, Private and Parochial Schools in the State of Indiana.

RULE 35. *Overcrowding in Schools Forbidden.* School authorities shall not crowd pupils into school rooms in excess of one pupil for each 225 cubic feet of space, and it shall be the duty of all health officers having jurisdiction,

to dismiss forthwith any school or school room in which 225 cubic feet of air space is not supplied to each pupil. School authorities shall without delay make provisions for pupils in accordance with the requirements herein set forth.

RULE 36. *Sick School Children to be Sent Home.* Teachers, school trustees, school officials and health officers having jurisdiction, shall not permit attendance in any private, parochial or public school of any pupil affected with a severe cough, a severe cold, itch, lice, or other vermin or any contagious skin disease, or who is filthy in body or clothing or odorous therefrom, or who has any of the following dangerous infectious diseases, to wit: Diphtheria, smallpox, scarlet fever, measles, whooping-cough, chickenpox, consumption, acute epidemic poliomyelitis, trachoma, contagious ophthalmia (pinkeye). And teachers shall without delay, send home any pupil who is obviously sick, even if the ailment is unknown, and said teacher shall inform the parents or guardian of said pupil, and also the local health officer as speedily as possible, and said health officer shall examine into the case and take such action as is reasonable and necessary for the protection of the school and to prevent the spread of infection.

RULE 37. *Ventilation.* Ventilation must be carefully attended to in all school rooms, and it shall be the duty of teachers to flood the school rooms with fresh air by opening windows and doors at recess and at noon time and at other times whenever the air becomes close or foul. The pupils shall be given gymnastic exercises during the time windows are open with the school in session, in cold weather.

RULE 38. *Adjustable Seats and Desks.* When adjustable seats and desks are used, such seats and desks shall be carefully adjusted to the pupils using them and this adjustment changed once or twice in the school year as required to allow for the growth of the pupil. Especial care in seating is to be given to crippled children. Those suffering with hip or knee disease where the joints are immovable, shall be given a seat with the desk placed 8 or 10 inches farther away than ordinary to permit a greater range of motion. If one of the lower limbs be shortened, a proper foot-rest shall be supplied for the shortened member. Cases of curvature of the spine should have a pad upon which to rest the back.

RULE 39. *The Common Towels.* The use of common towels in schools is condemned and such use is prohibited. Each pupil must have an individual towel, or sanitary paper towels shall be provided.

RULE 40. *Common Drinking Cup.* The use of the common drinking cup in schools is condemned and such use is prohibited. Each pupil must have an individual drinking cup or sanitary bubble fountains shall be provided.

RULE 41. *Pencils.* The common use of pencils is condemned and prohibited on account of the danger of transmitting disease from one pupil to another by the interchange of pencils. When a pencil is supplied a pupil it shall be the property of that pupil to be kept by him and not to be taken up and given out again by the teacher.

RULE 42. *Care of Floors.* All floors, except hardwood and tile must be oiled to prevent dust nuisance. Before oiling, the floor must be thoroughly scrubbed and dried. The oil must then be lightly and evenly applied to the floor following the grain of the wood. This scrubbing and oiling of floors shall

be repeated in the holiday vacation and in schools having a nine or ten months' term, this work shall be repeated again in the spring vacation.

RULE 43. *Sweeping and Dusting.* Dry sweeping and dusting is condemned and prohibited. Before sweeping, light sprinkling of the floor with water or the use of dampened or oiled* sawdust is recommended. Feather dusters shall not be used. Such dusting merely causes the dust to float in the air of the room to be breathed by the pupils or to settle down to be again dislodged by subsequent dusting. In dusting, an oiled cloth** shall be used to gather the dust. Dusting or sweeping either in corridors, stairways or class-rooms, is prohibited at any time while the school is in session.

RULE 44. *Obstruction to Doors and Stairways.* No outside doorway or entrance to school buildings shall be fastened shut at any time while school is in session. It is recommended that all doors opening to the outside be fitted with automatic opening devices. Brooms, step-ladders, tools, etc., shall not be allowed to stand in corridors, stairways or behind doors at any time.

RULE 45. *Heating Stoves.* Whenever stoves are used for heating, they shall be surrounded by screens to protect the pupils who must sit near the stove. Such screens shall be constructed of two sheets of metal with an air space or layer of asbestos between the metal sheets.

RULE 46. *Care of Basements.* Basements shall be kept clean at all times, not by the use of lime, ashes or disinfectants, but by being kept free from all filth, dirt or accumulations of any kind.

RULE 47. *Blackboards and Erasers.* Blackboards and erasers shall not be cleaned at any time when school is in session, nor shall such cleaning be done by pupils at any time. Janitors shall see that accumulated chalk dust is thoroughly removed every day and erasers shall be cleaned outside the school building.

*To prepare oiled sawdust, dissolve a teacup of floor oil in a quart of gasoline. Then mix this thoroughly with a bushel of sawdust in a large box or tub. This mixing must be done out of doors.

**Oiled dust clothes may be prepared as follows: Mix floor oil with gasoline in the proportion of one ounce of oil to a quart of gasoline. Have cloths of good quality—cheese cloth about a yard square. Wring these cloths out of the oil preparation and have them washed when necessary.

Ordered: Dr. Chas. Kern shall be a delegate to represent the Indiana State Board of Health at the annual meeting of the National Housing Association to be held at Minneapolis October 6 to 9; his expenses to be paid from the general fund of the board.

REGULAR QUARTERLY MEETING OF THE FOURTH FISCAL AND THIRD STATISTICAL QUARTER, BOTH ENDING SEPTEMBER 30, 1915.

OCTOBER 15, 1915.

Called to order at 1:00 p. m. by President Boyers.

Present: Drs. Boyers, Sutton, Kern, Freeland and Hurty.

The president announced the object of the meeting was to attend to the business of the fourth fiscal and third statistical quarter, both ending September 30, 1915, and to attend to such other business as might come before the Board.

REPORT OF SECRETARY.

To the secretary's report is appended the report of the assistant secretary, the report of the superintendent of the food, drug and water laboratories, and the report of the superintendent of the pathological laboratory.

REPORT TO THE SECRETARY FOR THE FOURTH FISCAL AND THIRD STATISTICAL QUARTER.

The fiscal year ended September 30 and this ends the thirty-fourth year of the State Board of Health, which was established in 1881. The following sums were turned back into the general fund from the several appropriations accorded to the State Board of Health:

State Board of Health (office)	\$99.68
Laboratory of Hygiene	56.49
Food and Drug Laboratory	14.55
Water Laboratory	10.01
Weights and Measures Fund	1.51
Cold Storage	4.52

Total reverting to Gen. Fund \$186.76

Hydrophobia Fund, carried to 1915-1916 \$3,364.96

The statistical report for 1914 is finished and ready to go to the printer. I am glad to be able to state that this is the first year we have been able to finish the statistical report so soon. Generally it takes one year before the tabulations, general classifications and special classifications and analyses are made. Again I express the hope that the Board will grant a sufficient sum to purchase tabu-

lating machines for the statistical department so that our statistics may be more quickly and perfectly tabulated.

During the summer months which composed the last quarter, each individual of the force in all departments enjoyed his or her vacation which is generally allowed, and this furnishes occasion to testify to the faithfulness and excellent work of each employe of the Board.

As usual very few visits and investigations were made during the summer months. The secretary took a month's vacation in northern Michigan and while absent revised and partially rewrote the Baby Book, for which the last legislature appropriated \$4,000, the first appropriation for said book being \$2,500. The second edition under the \$4,000 appropriation will supply about 15,000 copies, not enough to present one to each of the first mothers appearing annually in Indiana. However, it is an improvement over the first effort to do this excellent health work.

Foot and Mouth Disease entirely disappeared during the quarter, no cases being reported and all quarantines were removed. It seems well to make special note that there were 3 deaths from pellagra during the quarter. The usual vital statistics for the quarter are given herewith:

SMALLPOX.

<i>Months.</i>	<i>Cases.</i>	<i>Deaths.</i>	<i>Counties Invaded.</i>
July, 1914.....	102	0	20
July, 1915.....	141	0	28
August, 1914.....	85	1	19
August, 1915.....	93	2	13
September, 1914.....	140	0	24
September, 1915.....	57	0	16
Total, 1914.....	327	1	63
Total, 1915.....	291	2	57

TYPHOID FEVER.

<i>Months.</i>	<i>Cases.</i>	<i>Deaths.</i>	<i>Counties Invaded.</i>
July, 1914.....	193	34	48
July, 1915.....	149	17	37
August, 1914.....	392	65	61
August, 1915.....	241	46	54
September, 1914.....	323	70	62
September, 1915.....	278	58	55
Total, 1914.....	908	668	171
Total, 1915.....	668	121	160

The rural sanitary survey, as ordered by the State Board of Health has been performed, all except Blackford County. Mr. Haines Freeland was employed to make the survey of Union County. A motorcycle was purchased for \$125, for it was easy to demonstrate this would be the cheapest and best way for transporting him over the county. He completed the work in due time and the results have all been tabulated and will be ready for record in the forthcoming report, when the survey data of Scott County, of Ohio County and Blackford County are ready. Mr. George Shea was employed to make the surveys of Scott and Ohio Counties, and at this time is engaged in surveying Blackford County. These surveys and conclusions will be published in a report of the Board for 1915.

VISITS OF THE SECRETARY.

July 7, Scottsburg.—On this date I went to Scottsburg with Mr. George Shea to instruct him in the methods of conducting the rural survey. An automobile was rented and we rode the first day from Scottsburg to Lexington, a distance of about ten miles. This is called the Lexington road and between the towns named only two houses were found which presented a sanitary score of 75, which is the passing mark. The other 15 were below the standard. Some interesting insanitary conditions were found.

July 13, Liberty.—This visit was made to instruct Mr. Haines Freeland in making the rural survey of Union County. On that date we rode from Liberty to College Corner and inspected 17 country homes. Fifty per cent. of these were found to score 75 or over, and thus passing inspection.

September 1, Argos.—This visit was made upon invitation of the Marshall County Farmers Association. Three years before the secretary had written an article on rural hygiene and had called attention in very forcible terms to the sanitary shortcomings of farmers in Indiana. The statements made in his article presented before the International Congress on Hygiene and Demography were denied by the farmers association of Marshall County, and especially by Mr. J. A. Miller, president of the said society. The said society also adopted a resolution of condemnation of the secretary. Very considerable correspondence some of it of a private nature, passed between the secretary and president of said county society, and finally, after three years the society extended a cordial invitation to the secretary that he be their special guest. On

arrival at Argos I was met at the station by a special committee and shown every attention and delivered an address to the farmers, with about 100 in attendance. The speakers who discussed my lecture acknowledged that I was right in my various indictments of farm sanitation and that it was the duty of the farmers for their own good to abolish all insanitary conditions that had been pointed out and thus remove all reasons for the criticisms which had been so forcibly presented. Resolutions of thanks and confidence in the State Board of Health and the State Health Commissioner were passed.

September 3, Hartford City.—The Blackford County Institute met September 3, and it was as a guest that the secretary made this visit. The institute was attended by all the teachers of the county and my address was upon the work of the State Board of Health in relation to the public school. I am glad to be able to state that the address was favorably received, and a resolution of thanks passed.

September 5, Rochester, New York.—In accordance with the orders of the Board that the secretary should represent the Board at the annual meeting of the American Public Health Association, he went to Rochester on this date. He could easily present here a long report of the proceedings of the five sections of this great Association, yet he was able to attend only two sections, the statistical section, and the section relating to general hygiene. The secretary read a paper entitled "Health on the Farm" upon special invitation, which paper will duly appear in the reports of the Association. The New York School for Health Officers was held in Rochester the same dates of the sessions of the American Public Health Association. The two associations did not conflict because the city was large enough in which to hold both of them. Governor Whitman of New York was present and made a speech at the opening of the sessions which was held jointly in the city hall of Rochester. It was a great occasion and the people are to be congratulated upon the fact that the Governor of the empire state so emphatically expressed himself in favor of public health work and announced that he would himself do his best to make the state of New York the leader. The address of President Sedwich was notable, as would be expected from a man of his reputation. His subject was "Some Failures of Sanitary Administration". The meeting was honored by the attendance of the first president of the Association, Dr. Smith, now 95 years old. All honors were shown the venerable gentleman. Surgeon

General Gorgas of the U. S. Army was also in attendance and delivered a notable public address upon "The Relation of Sanitation to Government."

The Mississippi Valley Conference on Tuberculosis was held in Indianapolis the last days of September. It was largely attended, delegates coming from Idaho, California, and New York. Governor McCreary of Kentucky was one of the notables in attendance. Governor Ralston acted as Chairman of the opening session and Vice President Marshall acted as toastmaster at the so called "speechless dinner". The State Board of Health made an exhibit of its new charts, which attracted a great deal of attention, the same being praised for their subject matter and execution. A visit was made by about 100 members to the State Tuberculosis Hospital at Rockville where they were entertained by Superintendent C. J. Stevens. All the papers and discussions may properly be designated as "fine indeed". The newspapers gave full and excellent reports of all sessions and of all papers and discussions. We have every reason to believe that the meeting of this Association at Indianapolis was the most beneficial in the public health cause. Mr. W. D. Thurber, Secretary of the Indiana Society for the prevention and control of tuberculosis, was elected president of the Mississippi Valley Conference on Tuberculosis.

VISITS MADE BY ASSISTANT SECRETARY DURING THREE MONTHS, JULY, AUGUST AND SEPTEMBER, 1915.

July 13 to 16.—In company with Richard White, pure food inspector, I made an automobile tour of inspection of a number of school buildings throughout the northern part of the state for the purpose of securing photographs for slides to be used in connection with an address before the National Educational Association at Oakland, Calif. On this trip we visited school buildings in the following counties: Marion, Hendricks, Montgomery, Tippecanoe, Clinton, Howard, Miami, Wabash, Huntington, Whitley, Allen, Wells, Blackford and Delaware. A number of photographs were taken of school buildings that had been condemned by the State Board of Health and also of modern consolidated and city grade and high school buildings.

July 19.—Went to Crawford County to continue the tuberculosis survey of this county which was begun two years ago. W. D. Thurber and A. W. Bruner were with me in Crawford

County. A number of conferences were held with the health officers, physicians, and officials of the county Anti-Tuberculosis Society. One public meeting was held at English at which I gave an illustrated address on the Prevention of Tuberculosis. Plans were made for continuing the survey work in this county and additional information was secured by a further study of the marriage records of the county. In connection with this visit I took occasion to inspect a number of school buildings, particularly the new school buildings at English and Marengo, both of which are a credit to the county and both of which have been constructed since our visit to Crawford County two years ago.

August 5 to September 5.—I attended the meeting of the National Educational Association at Oakland, California, where on the evening of August 17 I gave an illustrated address before the school hygiene section of the Association on the subject, "\$8,000,000 for New School Buildings in Indiana". This address showed by means of stereopticon pictures the progress that had been made in the State of Indiana in the construction of sanitary school buildings and reviewed the work of the State Board of Health in connection with better school buildings throughout the state. The address was well received and elicited considerable discussion on the part of many of the teachers present after the close of the meeting. While in San Francisco I attended the Panama Pacific Exposition and made a special study of the public health and educational exhibits. The exhibits along both these lines were noteworthy and complete, so that I feel well repaid for the time and effort necessary in making a study of them.

September 16.—Visited Otisco in Clark County where I met the trustee of Charlestown Township Dr. Pangburn in reference to the Otisco school building. It was decided to make temporary repairs on the present building and permit it to be used for school purposes this year. Both the trustee and advisory board have agreed to build a new building next year to be located about one-half mile outside the village of Otisco which will accomodate the pupils from three of four school districts.

September 20.—Visited Sharpesville and Nevada in Tipton County. The purpose of this visit to Nevada was to confer with the county health commissioner, township trustee and township advistory board in regard to the present school building. This building is under condemnation by the county health commissioner and the trustee has fitted up two rooms in a residence which were being used for school purposes at the time of the visit. The

county health commissioner was advised to permit the trustee to open up one of the rooms in the school building which he agreed to do in order to allow better school facilities for this year. Both the advisory board and trustee favor the construction of a consolidated school building to be located about two miles from the village of Nevada and which will accomodate all the pupils in the eastern half of this township. The people living in the town of Nevada oppose this but I have no doubt that consolidation will be effected in spite of this opposition.

OCTOBER 15, 1915. REPORT OF BACTERIOLOGICAL LABORATORY,
WILL SHIMER, M. D., Superintendent.

During the last quarter we have become well established in our new quarters, which consist at present of eight rooms, as follows:—three north laboratory rooms, office for stenographers, rabies treatment room, library room, outfit room and store room. The corridor is used as a waiting room for the rabies patients.

The building is so well situated and so well constructed as to light and ventilation that it is hard to see how a better arrangement could have been made had the buildings been built especially for a laboratory.

During the last three months we have sent cards to every doctor whose patients gave a positive Widal for information as to the possible source of the typhoid infection. We have received reports on practically every one of these cards. In many cases the doctors gave water and milk as the source of infection which on later inquiries proved to be without foundation. In several instances we were able to locate and limit the spread of the typhoid epidemic.

The recent typhoid epidemic at Vawter Park, Wawasee, Ind., proved to be due to a water infection resulting from a double supply one, being from the lake and one from driven wells. In all about 14 cases occurred.

At present we are busy with cultures from school inspection where epidemics of diphtheria are occurring. At present there are epidemics at Terre Haute, Fairmount, Crawfordsville, Danville, Crothersville and Bloomington. This method of handling epidemics makes it possible to keep the schools open and at the same time prevents the spread of the disease.

We are now instituting a new filing system for our positive diphtheria cultures so that we will be able to determine at the

end of three weeks whether the patient has been released from quarantine upon a negative diagnosis from the laboratory. We hope to co-operate with the local health officers in making the isolation of diphtheria more successful.

Additional rooms along with the standardization of supplies and procedures has made it possible to do more routine work and do it easier. The work for the year ending September 30, 1915, is as follows: Specimens examined, 18,834; typhoid vaccine sent out, 3,799; patients treated to prevent hydrophobia, 239; outfits sent out to physicians for sending specimens to the laboratory, 20,960; guinea pigs inoculated for rabies and tuberculosis, 64.

EAST CHICAGO AND INDIANA HARBOR WATER WORKS MATTER.

At the meeting held July 2, it was ordered, as recorded in the minutes of that date, that a special meeting of the State Board of Health would be held October 1, to hear from the authorities in control of the said water company, to present reasons, if any, why the State Board of Health should not order said company, as in the statutes provided, to build and install a filter plant. The said meeting was not held, being postponed in the interim by correspondence, the reasons being that October 1 by general proclamation of the Governor was appointed Disease Prevention Day, which would occupy the attention of health authorities all over the state; also because President C. L. Kirk of the said water company being sick and being ordered by his physician to take a rest, requested that the date of the meeting be changed. It was therefore ordered that at the next regular meeting of the Board, October 15, Mr. Kirk should, if he so desired, be present and state reasons, if any, why the State Board of Health should not issue an order as above stated. Mr. Kirk appeared at the regular meeting October 15, and stated that he had held a conference with the legally constituted authorities of Indiana Harbor and East Chicago in regard to securing a new franchise and that he believed a new franchise would be granted and in this way the difficulties between the water company and the said two cities would be adjusted. A telegram was also received from Hon. Frank Callahan, Mayor of Indiana Harbor, stating that he too believed the water company and the two cities concerned would arrive at an amicable adjustment of their differences and suggested that the State Board of Health postpone any consideration incident to

issuing an order, and that another date for hearing be appointed within about 30 days. After hearing Mr. Kirk, and considering the telegram from Mayor Callahan, the following order was issued:

Ordered: The State Board of Health will meet in special session Wednesday, December 1, 1915, to hear the arguments of all parties to the controversy concerning the purity of the water supplied by the East Chicago Water Company. The secretary was ordered to duly notify all parties concerned.

After due discussion it was

Ordered: The secretary shall have power to employ a competent man to do field work as explained by the secretary. His duties shall be such as are assigned and required by the secretary.

Ordered: Mr. H. E. Barnard shall attend the annual meeting of the Official Agricultural Chemists at Washington, November 15 to 18, he to represent the Indiana State Board of Health at said meeting, his expenses to be paid out of the appropriation for the laboratory.

Ordered: That the secretary shall attend the meeting of the Committee on Public Education of the American Medical Association to be held at Chicago, October 23, his expenses to be paid out of the Board appropriation.

WORK OF THE FOOD, DRUG AND WATER LABORATORIES FOR THE QUARTER ENDING OCTOBER, 1915.

SPECIAL REPORT.

During the three months just passed we have completed two very important sanitary surveys, one at Logansport, the other at Noblesville. At Logansport the city officials provided us with sufficient funds to maintain the laboratory and to pay the expenses of our workers. At Noblesville the City Council assumed the expenses amounting to about two hundred dollars. The surveys included a chemical and bacteriological analysis of every public and private water supply. In the survey at Logansport 2,210 samples of water were taken from wells and cisterns. One thousand, five hundred and thirty-six samples were found to be of satisfactory quality for drinking and domestic purposes; 674 samples were unequivocally bad.

In addition to this work the data collected showed the condition of every privy vault in the town. As the work progressed the city

health officer and inspector were notified of the conditions found and action was taken looking toward an improvement of all unsanitary conditions. Since the completion of the work all of the bad wells have been or are being permanently closed.

At Noblesville 934 well waters were analyzed. Eight hundred and thirty-four were found to be satisfactory. But one hundred were bad. Noblesville is built upon a sand bar and the sand and gravel underlining the city furnish a most satisfactory filtering medium.

Eight hundred and eleven privies were inspected at Noblesville. Sixty-nine were found to be in good condition; 511 were fair only; 231 were either unsanitary or unclean and were condemned. These bare figures but poorly show the value of the work. We are now making mortality and typhoid charts which will we believe show some definite relation to exist between bad water, unsanitary vaults and disease.

It gives me pleasure to point out to the Board that two of the men at Logansport and one of the men at Noblesville, Seniors at Purdue, DePauw and Butler, worked without any compensation whatever. If we had not had their help it would not have been possible to have made the surveys.

In addition to this field work 494 waters were analyzed at the laboratory. Most of these samples were sent in by health officers and usually because of conditions which suggested the possibility of pollution.

Special studies were made of the water supplies of Boonville, Aurora, Paoli, West Baden and French Lick. Our travelling laboratory was set up at French Lick and during the survey we analyzed not only the public supplies of the towns in the Lost River Valley, but as well, some seventy private supplies. We found the public supply at Paoli to be of excellent quality. The West Baden plant is not at the present time giving satisfactory results and the French Lick supply is unfiltered. Two springs largely used by residents in French Lick are both polluted. The Boonville supply was in most unsatisfactory condition because of the presence of very large amounts of organic matter. This plant is owned by the city and if properly run would furnish good water.

In the Food Laboratory 270 samples of miscellaneous products were analyzed during the quarter.

In the Drug Laboratory 77 samples were assayed. Most of the drug work is devoted to the analysis of samples sent in by physicians or to detailed studies of preparations of little or no

merit. An investigation of a number of samples of paragoric showed no excess in the narcotic content and in close conformity to the Pharmacopœia requirements. In addition to this work we have made a very careful study of the disinfectants widely used at schools, and in public institutions. Some twenty-five samples were sent in by School Superintendents following our offer to make the analysis. Of this number four samples were absolutely worthless, the others were of varying grades and standards. Our investigation shows the necessity for buying antiseptics and disinfectants on an efficiency basis rather than at a fixed price per gallon. Six types of formaldehyde generators studied all gave results comparable with the claims of the manufacturers.

But seven prosecutions were filed during the quarter. We are more and more convinced that the Police Court is not the place to go for improved conditions in the food supply. Several of these cases were brought because of the sale of straight beer under Temperance Beer Labels. One case involved the sale of milk containing formaldehyde, at present a very unusual adulterant.

The inspector's work was as usual of much value. The inspectors visited 2,003 places. They reported but 11 of these places as in excellent condition. One thousand three hundred and seventeen however, were in good shape; 631 were fair only, 39 were poor and 5 bad. The poor and bad places were all condemned, that is 44 establishments were condemned for unsanitary conditions during the summer months. It is interesting to note that of 27 dairies visited not a single one was in excellent condition and but 9 were even good. Nine were in fair shape, 7 were poor and 2 bad. We are convinced that the only solution of our tremendous milk problem is pasteurization of all milk. A dairy may be in a sanitary condition but the handlers of the milk may be diseased. A significant indication of the opinion of experts is the address of a paper shortly to be given by Dr. Kelly of the Dairy Division of the Bureau of Animal Industry, "The Need of Medical Inspection of Employees Who Are Engaged in the Production and Handling of Milk".

It has long been evidence to our field men that many workers with the food supply are diseased and are working in violation of the law which prohibits the employment of diseased persons. We have done little toward enforcing this important section of our law, nevertheless the subject is a very live one with health officers and food officials everywhere and we are now preparing to inaugurate a vigorous crusade against diseased workers. My ad-

dress before the National Association of Food Officials at the Annual Conference discussed this subject. Not only were my ideas well received by other food and health officers but it is interesting to note that they have been widely quoted by Trade Journals in many lines of industry. The time is almost here when anyone seeking work in a food manufacturing establishment must fortify his application with a certificate showing complete freedom from disease.

Our Exhibit, adulterated food and drugs, medical frauds and fraudulent weights and measures, has been busy throughout the summer. It was one of the most popular exhibits at the State Fair. It has recently been shown at Aurora and Lawrenceburg where it excited much favorable comment. In this exhibit we are endeavoring not only to point out fraud, but we are endeavoring to impart valuable information especially with reference to the use of drugs and toilet preparations, nutritive values of food and the economic value of honest weights and measures. We have exhausted our supplies. Our Third Edition of Medical Frauds is gone and we have hundreds of requests on file which we cannot meet. We have now in preparation our Fourth Edition which with your permission we shall make at least 40,000. May I point out that although these exhibits are valuable, in order to show them it is necessary to take the inspectors away from their regular work. How far are we justified in doing this. We really need at least two lecturers and sufficient money to collect and keep an exhibit on the road every week of the year. It is unnecessary to point out that this exhibit properly should be a Department Exhibit showing a part of the work of the State Board of Health and that the other Departments of the Board, the Bacteriological Laboratories, the Vital Statistics Department and the Public Health work should be shown with it. For instance October 25th to 30th the grocers of this city put on at Tomlinson Hall the Indianapolis Pure Food and Household Exhibit Show. This exhibit will attract thousands of people. The best space in the hall has been set aside for our exhibit. What an opportunity this gives the State Board of Health to interest the thousands of visitors to the Show.

THE CANAL ZONE LEADS THE WAY.

SPECIAL REPORT.

Indiana has a law prohibiting the employment of diseased persons in handling the food supply but our health officers are not

diligent in enforcing the statute. It is different in the Canal Zone. Down on this Isthmus it is not possible to contract typhoid fever because a typhoid carrier works in a restaurant. In Indiana, mind you, convalescent typhoid fever patients get back into the kitchen as soon as they are able to work.

If one wishes to keep well the Canal Zone with its admirable sanitary regulations which are *enforced* by the Health Officers of the District is recommended as a place of residence. The following discussion of the physical examination of Hotel and Mess Employees is taken from the Canal Record.

"The Health Department has completed a physical examination of all men working in the Government hotels and messes in whom the presence of communicable disease would constitute a menace to the health of patrons. In addition to bodily examination for tuberculosis, venereal and blood diseases, etc., tests of stools and urine were made to determine the presence of typhoid, paratyphoid and dysentery. One typhoid carrier was found in the person of a waiter in a silver mess at Corozal, and he was discharged and deported. Several other employes at different messes were discharged for unclean habits, but, in general, the sanitary condition of the personnel was found to be highly satisfactory. These examinations will be repeated from time to time, and all new men employed in the hotel and mess service will be subject to similar examination."

Ordered: Dr. Will Shimer shall represent the State Board of Health at the Association of American Bacteriologists to be held at Urbana, Illinois, December 28, 29, 30, his expenses to be paid out of the Laboratory fund.

Ordered: The secretary shall represent the State Board of Health at the annual meeting at the Kalamazoo Academy of Medicine at Kalamazoo, December 14, 1915, there to meet with the president and secretary of the Michigan State Board of Health and consult on matters of interest to the states of Indiana and Michigan. His expenses to be paid from the fund of the State Board of Health.

Statistical Report of Vital Statistics for 1915.

STATISTICAL REPORT, 1915.

This report is for the calendar year 1915. The populations are those of the United States census.

In the following tables the causes of death are arranged according to the International List of Causes of Death, which has been adopted by all the registration States of the country. The International List of Causes of Death was used by the United States Bureau of the Census in its last statistical compilation of causes of death.

Table 1 is a classification of all deaths, with rates per 100,000 population, classified and arranged according to the International List of Causes of Death.

Table 2 is a classification of deaths from all causes by months, ages, color, nationality and conjugal condition.

Table 3 gives deaths from all causes by counties, months, ages, color, nationality and conjugal condition.

Table 4 gives deaths from certain diseases by geographical sections and by counties.

Table 5 gives death rates from certain important causes by counties in geographical sections.

Table 6 gives deaths from certain important causes by cities.

Table 7 gives death rates from certain important causes by cities.

Table 8 gives annual death rates for ten years, 1906 to 1915 inclusive, with average of cities of 5,000 population and over, compared with rural and state rates.

Table 9 gives deaths according to occupations by months and ages.

Table 10 gives deaths from tuberculosis (all forms) with rates per 100,000 population for certain occupations of each sex for the year 1915.

Table 11 gives deaths from poliomyelitis by counties, months, and ages for the year 1915.

Table 12 gives cases of diseases reported by counties.

Table 13 gives deaths of infants under one year from important causes.

Table 14 gives deaths of infants under one year by counties and cities.

Table 15 gives deaths.

Table A gives births by counties, sex, color, number of children born to each mother, and nationality of parents. (Stillbirths excluded.)

Table B gives births by counties, number of children born each month, grouped ages of parents.

Table C gives plural births, illegitimate and stillbirths.

Table D gives number of births and rate per 1,000 population, by counties for the year 1915.

Table E gives marriages by counties, months, color and nationality.

Table F gives marriages by counties and grouped ages.

BIRTHS.

The total number of births reported in the state of Indiana during the year 1915, was 61,850, of which number 31,701 were males and 30,149 females. Of the total males 31,231 were white and 470 colored. Of the total females 29,652 were white and 497 colored. In the preceding year 61,889 births were reported, males, 32,018, females, 29,871. This shows a slight decrease over the preceding year of 39. September had the largest number of births, 5,466, and April the least number, 4,827. March had the greatest number of deaths and June the lowest number. The birth (61,850) rate 21.9 exceeds the death (35,416) rate 12.5 per 1,000.

The nationality of parents appears as follows: American born fathers, 55,272; American born mothers, 56,203. Foreign born fathers, 5,666; foreign born mothers, 5,009. Nationality not reported, fathers, 294; mothers, 20.

Of the total number of children born to each mother, 17,444 were first, 13,855 second, 9,742 third, 6,705 fourth, 4,602 fifth, 3,319 sixth, 2,230 seventh, 1,451 eighth, 1,035 ninth, 609 tenth, 375 eleventh, 413 twelfth and over, 70 not reported.

As to ages of parents, 972 fathers and 6,783 mothers were under 20 years of age; 1,112 fathers and 14 mothers in the age period 50 to 60; 109 fathers in age period 60 to 70; 18 fathers in age period 70 to 80.

Two thousand and fifty-one stillbirths not included in total number of births and deaths.

The illegitimate births numbered 881, of which 452 were males and 429 females. The plural births numbered 619—646 males and 594 females. Of the plural births 2 were triplets.

MARRIAGES.

Total marriages reported 29,025. This is an increase of 47 compared with the previous year. December had the greatest

number of marriages 3,023, and January the lowest number, 1,862. The general statistics on marriage will be found in Tables E and F.

DEATHS.

Total number of deaths reported in 1915, 35,416; rate 12.5. In the preceding year 35,869 deaths; rate 12.8. Males numbered 19,123; females 16,293. White males, 18,449; colored, 671; 3 Indians. White females, 15,708; colored, 584; 1 Indian.

American born, 11,263 males, 14,964 females; foreign born, 1,788 males, 1,314 females. Single males, 7,162; single females, 4,843; married males, 8,463; married females, 6,220; widowed or divorced males, 3,391; females, 5,210; conjugal condition not reported, 107 males and 20 females.

The number of deaths with rates for 10 years appears in the following table:

<i>Year.</i>	<i>Deaths.</i>	<i>Annual Rate.</i>
1906	35,992	13.5
1907	36,461	13.4
1908	36,224	13.2
1909	36,579	13.3
1910	36,513	13.5
1911	35,231	13.0
1912	35,771	13.1
1913	36,710	13.2
1914	35,869	12.8
1915	35,416	12.5

Of the total number of deaths, 4,947 or 13.9 per cent. occurred under one year of age. In the age period 1 to 4, 1,726 deaths occurred, making a total loss of children under five years of age of 6,673, or 18.8 per cent. of the total deaths, a decrease of 2.2 over the preceding year. This is 10.7 per cent. of the total births reported, and shows a decrease over the preceding year of 1.5. In the age period 5 to 19, there were 2,035 deaths or 5.7 per cent. of the total number, a decrease of 0.2 over the preceding year. The total loss under 20 years of age is 8,708 or 24.5 per cent. of the total deaths, a decrease of 2.5 per cent. over the preceding year.

In the age period of 20 to 49, practically the prime of life, there were 7,711 deaths, equal to 21.7 per cent. of the total, a decrease of 0.5 per cent. over the preceding year.

DEATHS FROM ALL CAUSES (ABRIDGED) FOR THE PAST SIX YEARS WITH AVERAGES.

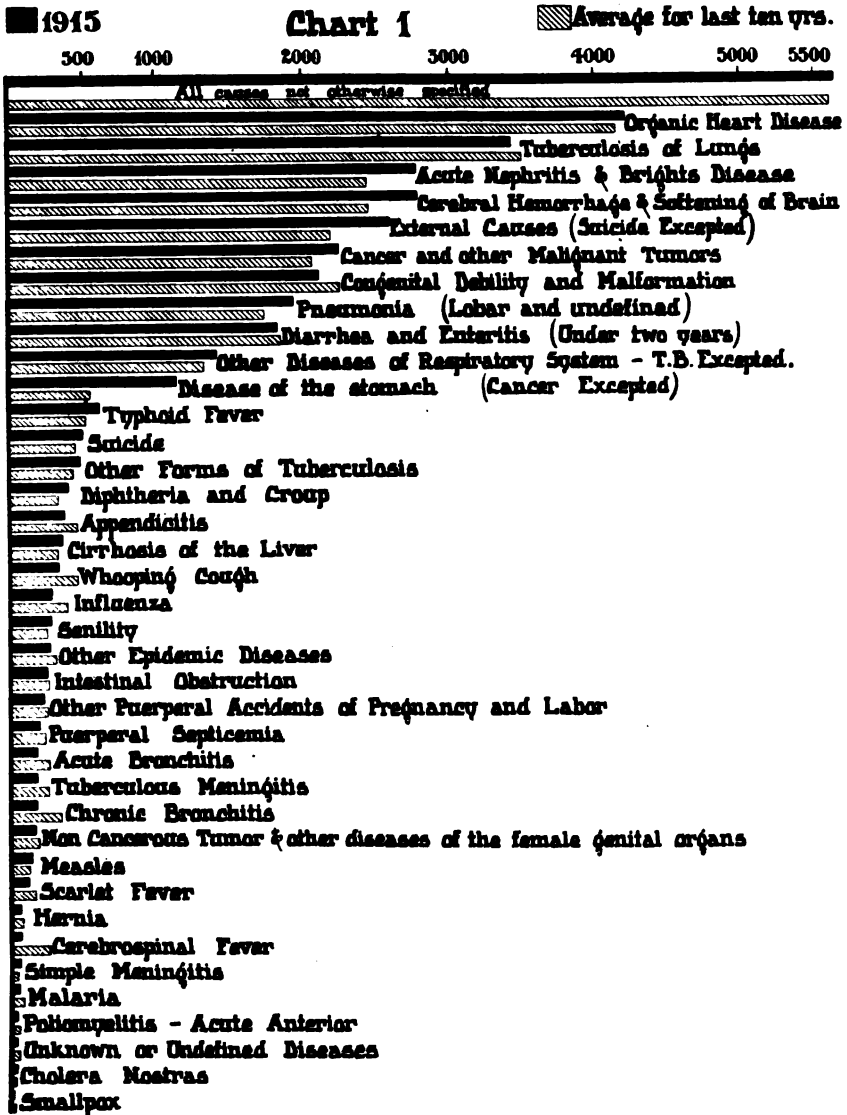
The following table gives the deaths from all causes for the past six years, with averages for each cause, and Chart No. 1 gives a graphic representation of deaths from all causes for 1915.

DEATHS FROM ALL CAUSES (Abridged)

	1910	1911	1912	1913	1914	1915	Av.
All causes not otherwise specified.....	5,568	5,445	5,665	5,653	5,813	5,652	5,632
Organic disease of the heart.....	3,956	3,972	4,419	3,998	3,915	4,214	4,079
Tuberculosis of the Lung.....	3,921	3,588	3,419	3,446	3,471	3,444	3,548
Acute Nephritis and Brights Disease.....	2,021	2,210	2,443	2,533	2,694	2,787	2,448
Cerebral Hemorrhage and softening of the brain.....	1,959	2,087	2,111	2,224	2,321	2,615	2,219
Cancer and other Malignant tumors.....	1,872	1,919	2,018	2,226	2,193	2,314	2,090
Deaths by external causes (Suicide excepted).....	2,168	2,292	2,288	2,605	2,270	2,121	2,290
Pneumonia (Lobar and Undefined).....	1,823	1,710	1,746	1,679	1,718	1,911	1,764
Congenital debility and malformation.....	1,798	1,816	1,836	1,972	1,956	1,865	1,874
Other diseases of the respiratory system (Tuberculosis excepted).....	1,188	1,180	1,388	1,246	1,425	1,463	1,315
Diarrhoea and enteritis (Under two Years).....	2,049	1,629	1,625	1,832	1,627	1,156	1,653
Disease of the Stomach (cancer excepted).....	547	579	658	680	649	532	607
Influenza.....	701	659	420	406	292	509	499
Suicides.....	386	445	458	441	478	425	439
Typhoid Fever.....	934	736	652	701	591	415	671
Cirrhosis of the Liver.....	283	329	309	296	328	390	306
Other forms of Tuberculosis.....	534	438	430	444	404	389	439
Appendicitis.....	272	282	316	294	333	307	300
Diphtheria and Croup.....	381	374	518	516	385	302	412
Senility.....	515	409	385	370	286	269	372
Intestinal Obstruction.....	236	249	264	225	248	262	247
Other Epidemic Diseases.....	453	291	283	249	267	250	298
Other Puerperal Accidents of Pregnancy and labor.....	221	200	219	217	237	213	218
Chronic Bronchitis.....	217	210	232	227	197	201	214
Tuberculosis Meningitis.....	255	204	199	218	202	188	211
Acute Bronchitis.....	247	210	246	217	211	185	219
Puerperal Septicemia.....	229	239	231	205	220	185	218
Whooping Cough.....	459	320	255	363	295	168	310
Non-Cancerous tumor and other diseases of the female genital organs.....	173	199	150	189	174	145	171
Simple Meningitis.....	130	123	82	95	81	107	103
Scarlet Fever.....	205	179	113	199	114	102	152
Hernia.....	75	93	81	95	109	81	89
Measles.....	462	280	73	461	151	69	249
Cerebro-spinal Fever.....	22	26	36	27	81	63	42
Malaria.....	151	124	98	71	66	56	94
Unknown or Ill-defined diseases.....	81	68	31	33	22	27	43
Poliomyelitis (Acute Anterior).....	53	68	47	38	27	16	41
Smallpox.....	1	3	12	11	8	10	7
Cholera Nostras.....	20	12	15	8	10	8	12
Total deaths from all causes.....	36,513	35,231	35,771	36,710	35,869	35,416	35,918

INDIANA

DEATHS FROM ALL CAUSES



TUBERCULOSIS.

Hasoc Wrought by Tuberculosis in Indiana in 1906-07-08-09-10-11-12-13-14-15.

YEARS	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Total Deaths.....	4,465	4,471	4,527	4,479	4,710	4,230	4,048	4,108	4,077	4,021
Male Deaths.....	1,675	1,964	2,085	2,112	2,191	2,032	1,910	2,018	2,001	2,016
Female Deaths.....	2,771	2,328	2,442	2,367	2,519	2,198	2,138	2,090	2,076	2,005
Mothers Age 18-40, prime of Life.....	917	826	875	1,286	1,412	1,212	1,168	1,101	1,201	1,062
Fathers Age 18-40, prime of Life.....	255	343	383	995	1,040	970	923	944	1,086	974
Orphans made under 12 yr. of age.....	2,353	2,340	2,407	2,375	2,490	2,041	2,001	2,046	2,009	1,897
Homes invaded.....	3,283	3,849	4,022	3,866	3,909	3,716	3,500	3,611	3,450	3,334

TUBERCULOSIS, ALL FORMS.

Deaths by Months with Average for Past Ten Years.

MONTHS	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
January.....	415	373	411	389	409	399	376	371	328	372	384
February.....	394	428	425	374	407	376	388	332	375	361	386
March.....	443	449	437	451	498	424	452	427	397	418	439
April.....	439	455	446	449	462	401	397	392	398	383	422
May.....	398	394	412	418	402	370	375	397	359	403	394
June.....	331	356	372	410	399	361	303	339	337	322	353
July.....	329	377	357	349	373	374	318	341	335	308	346
August.....	367	359	314	353	368	339	286	328	301	291	333
September.....	307	340	341	322	354	267	269	281	317	272	307
October.....	344	327	330	327	359	306	393	296	304	281	326
November.....	346	315	344	305	311	303	280	297	276	278	305
December.....	343	329	338	332	368	310	311	299	320	332	328
Totals.....	4,456	4,522	4,527	4,479	4,710	4,230	4,048	4,108	4,077	4,021	4,317

TUBERCULOSIS, ALL FORMS.

Deaths by Ages with Average for Past Ten Years.

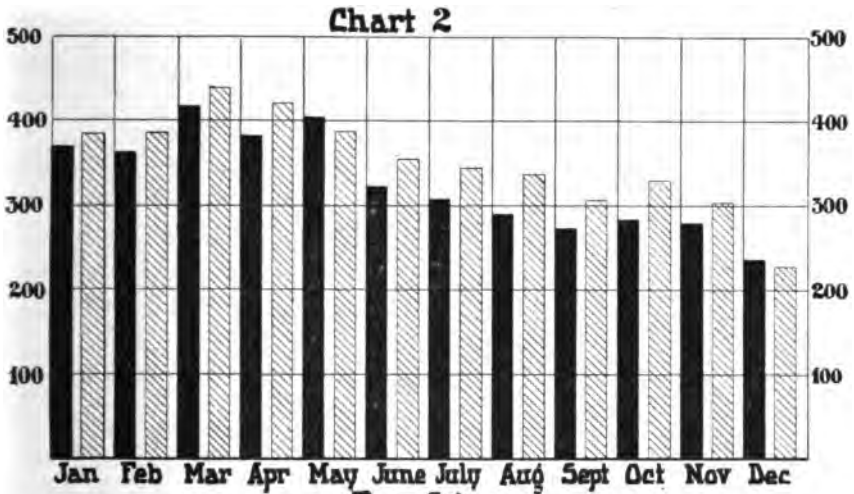
AGES	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
Under 1 year.....	126	132	152	179	184	139	143	133	104	73	126
1 to 2 years.....	62	85	36	87	102	72	79	88	70	74	75
2 to 3 years.....	38	45	30	36	39	33	46	27	46	42	38
3 to 4 years.....	31	24	21	24	29	25	35	26	26	21	26
4 to 5 years.....	24	28	15	15	22	11	14	22	15	23	18
5 to 9 years.....	64	58	55	67	60	64	67	62	61	64	64
10 to 14 years.....	106	93	100	93	92	81	89	83	72	77	88
15 to 19 years.....	411	400	400	373	370	339	267	293	261	307	342
20 to 24 years.....	651	667	609	575	653	529	511	479	487	470	566
25 to 29 years.....	577	573	532	567	590	520	549	485	489	498	538
30 to 34 years.....	464	467	432	410	484	415	410	433	467	409	439
35 to 39 years.....	375	341	356	365	380	379	340	355	335	352	353
40 to 44 years.....	242	253	312	312	300	317	253	282	290	296	288
45 to 49 years.....	280	270	259	290	238	216	204	231	235	234	243
50 to 54 years.....	221	226	227	217	276	244	211	239	246	260	197
55 to 59 years.....	171	190	225	198	213	191	171	193	221	204	184
60 to 64 years.....	170	179	200	203	195	176	167	189	171	190	184
65 to 69 years.....	172	180	202	165	188	196	193	163	196	156	180
70 to 74 years.....	122	138	162	135	161	151	141	162	150	134	144
75 to 79 years.....	96	104	92	112	98	89	82	103	81	89	94
80 to 89 years.....	35	48	48	56	54	49	52	45	45	32	46
90 years and over.....	4	3	5	10	7	4	4	4	9	16	6

INDIANA TUBERCULOSIS ALL FORMS

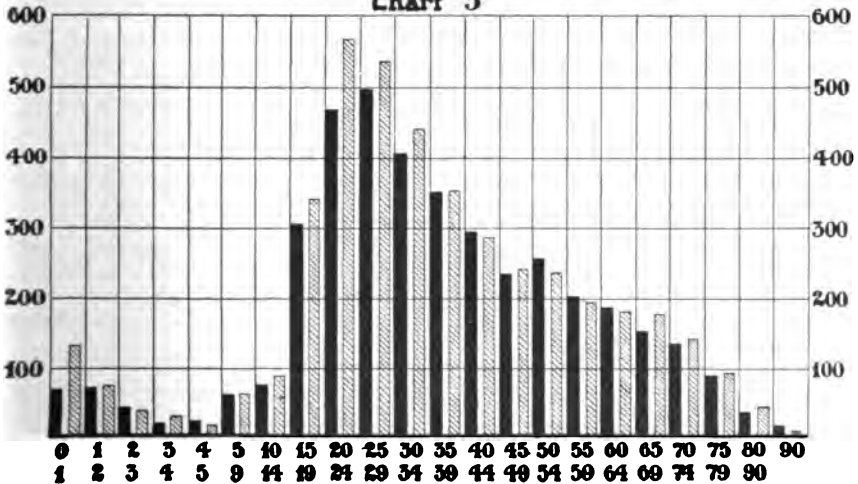
■ 1915

By Months

▨ Average for last ten yrs



By Ages
Chart 3



PULMONARY TUBERCULOSIS.

Deaths by Months with Average for Past Ten Years.

MONTHS	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
January.....	359	330	358	334	357	340	318	323	289	326	333
February.....	349	392	363	310	340	320	333	289	340	314	335
March.....	391	396	380	385	420	369	385	372	339	371	380
April.....	386	392	379	365	378	331	321	349	342	319	356
May.....	337	329	347	347	324	306	322	325	323	344	330
June.....	282	303	318	330	322	310	252	288	292	269	296
July.....	285	314	290	276	291	300	270	283	283	272	286
August.....	312	312	257	295	278	283	244	274	254	241	275
September.....	253	286	278	253	281	208	196	232	259	218	246
October.....	289	276	275	273	294	244	234	235	251	249	262
November.....	302	276	293	253	254	256	226	243	234	241	257
December.....	310	282	287	287	304	258	263	260	265	280	279
Totals.....	3,854	3,888	3,825	3,706	3,853	3,525	3,364	3,446	3,471	3,444	3,637

PULMONARY TUBERCULOSIS.

Deaths by Ages with Averages for Past Ten Years.

AGES	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
Under 1 year.....	60	63	78	48	63	52	53	55	45	34	55
1 to 2 years.....	27	31	27	30	33	22	32	34	15	27	27
2 to 3 years.....	19	19	15	14	13	13	16	11	14	15	13
3 to 4 years.....	10	6	8	8	9	5	7	11	7	7	7
4 to 5 years.....	8	10	4	5	9	4	4	7	10	7	6
5 to 9 years.....	31	29	23	30	24	26	29	41	23	28	28
10 to 14 years.....	76	66	62	64	62	53	57	56	49	51	59
15 to 19 years.....	359	356	348	329	317	290	229	260	230	264	298
20 to 24 years.....	625	623	562	509	578	480	451	439	449	433	514
25 to 29 years.....	535	517	499	502	520	474	507	455	452	452	491
30 to 34 years.....	429	430	395	267	431	375	370	381	426	369	387
35 to 39 years.....	342	318	316	322	309	333	301	320	305	325	319
40 to 44 years.....	220	234	278	277	263	263	253	249	263	270	257
45 to 49 years.....	231	238	220	255	204	192	186	207	201	210	214
50 to 54 years.....	198	197	188	183	242	206	183	201	221	228	204
55 to 59 years.....	155	165	199	165	181	159	147	169	200	180	172
60 to 64 years.....	145	153	170	179	158	151	141	156	148	168	156
65 to 69 years.....	147	163	169	142	165	168	160	136	171	146	156
70 to 74 years.....	103	126	138	120	141	138	116	126	130	112	124
75 to 79 years.....	76	88	76	101	86	78	72	86	67	78	80
80 to 89 years.....	31	43	42	48	39	41	47	37	39	40	40
90 years and over.....	4	1	3	8	6	4	4	4	6	....	4

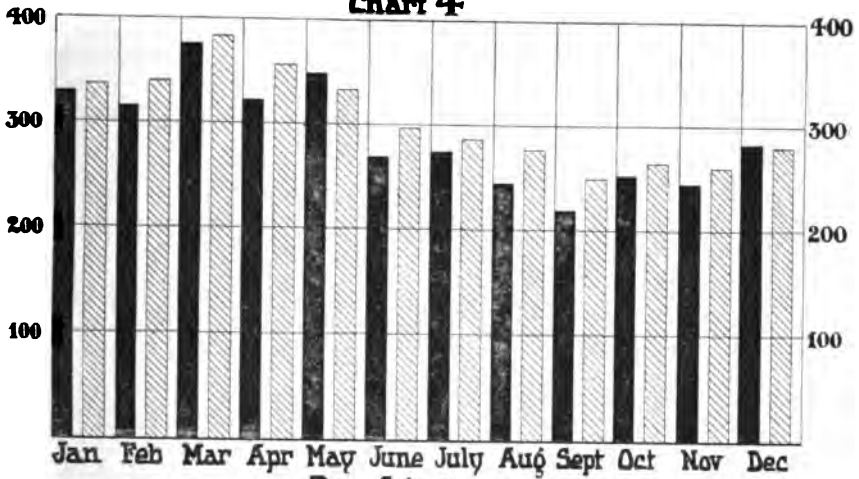
INDIANA PULMONARY TUBERCULOSIS

■ 1915

By Months

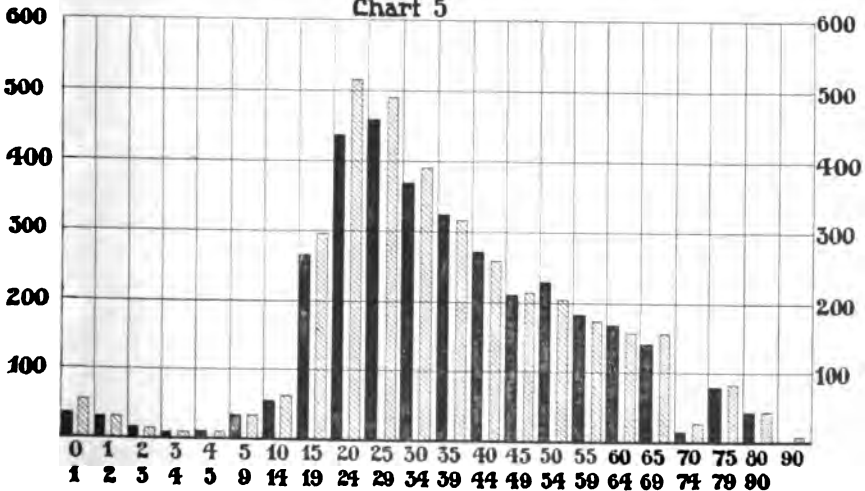
▨ Average for last ten yrs.

Chart 4



By Ages

Chart 5



The following table of deaths by months for 1915 shows March had the greatest number of deaths, and June the lowest number.

January.....	3,161	July.....	2,596
February.....	3,378	August.....	2,602
March.....	3,817	September.....	2,743
April.....	3,260	October.....	2,725
May.....	2,736	November.....	2,750
June.....	2,433	December.....	3,215

March, April and May had the most tuberculosis deaths.

January, February and March had the most pneumonia deaths.

July, August, September and October had the most deaths from diarrheal diseases.

September, October and November were highest in typhoid deaths.

**TUBERCULOSIS DEATH RATES PER 100,000 BY COUNTIES FOR 1915
IN INDIANA.**

State Rate, 142.3.
Northern Counties, 108.9.
Central Counties, 156.7.
Southern Counties, 158.6.
Urban, 155.9.
Rural, 131.4.

COUNTIES.	Tuberculosis All Forms	COUNTIES.	Tuberculosis All Forms
Adams.....	145.7	Lawrence.....	181.1
Allen.....	110.0	Madison.....	134.5
Bartholomew.....	183.4	Marion.....	212.4
Benton.....	55.2	Marshall.....	92.4
Blackford.....	105.4	Martin.....	143.4
Boone.....	139.6	Miami.....	92.3
Brown.....	75.2	Monroe.....	155.5
Carroll.....	66.7	Montgomery.....	118.5
Cass.....	144.0	Morgan.....	163.0
Clark.....	148.7	Newton.....	57.0
Clay.....	108.3	Noble.....	105.5
Clinton.....	128.3	Ohio.....	161.7
Crawford.....	149.4	Orange.....	254.1
Davies.....	122.5	Owen.....	121.0
Dearborn.....	152.1	Parke.....	265.7
Decatur.....	79.2	Perry.....	169.0
Dekalb.....	102.6	Pike.....	152.4
Delaware.....	114.0	Porter.....	91.2
Dubois.....	156.6	Posey.....	157.7
Elkhart.....	86.4	Pulaski.....	45.0
Fayette.....	142.1	Putnam.....	145.9
Floyd.....	207.5	Randolph.....	139.4
Fountain.....	72.7	Ripley.....	126.6
Franklin.....	130.5	Rush.....	123.1
Fulton.....	71.1	Scott.....	137.5

TUBERCULOSIS DEATH RATES—Continued.

COUNTIES.	Tuberculosis All Forms	COUNTIES.	Tuberculosis All Forms
Gibson.....	141.9	Shelby.....	191.1
Grant.....	143.6	Spencer.....	150.0
Greene.....	136.8	Starke.....	94.2
Hamilton.....	95.8	Steuben.....	103.8
Hancock.....	78.8	St. Joseph.....	122.8
Harrison.....	168.1	Sullivan.....	128.5
Hendricks.....	153.5	Switzerland.....	121.1
Henry.....	139.5	Tippecanoe.....	159.1
Howard.....	117.5	Tipton.....	136.5
Huntington.....	112.6	Union.....	175.7
Jackson.....	161.8	Vanderburgh.....	236.3
Jasper.....	114.6	Vermillion.....	147.8
Jay.....	115.6	Vigo.....	158.7
Jefferson.....	253.9	Wabash.....	133.6
Jennings.....	161.6	Warren.....	100.0
Johnson.....	140.8	Warrick.....	152.5
Knox.....	127.1	Washington.....	149.1
Kosciusko.....	99.6	Wayne.....	127.0
Lagrange.....	92.4	Wells.....	101.7
Lake.....	122.0	White.....	90.8
Laporte.....	93.7	Whitley.....	105.4

MONTHLY ANALYSIS OF TUBERCULOSIS.

(As published in *Monthly Bulletin*.)

January, 1915.—Total number of tuberculosis deaths 357, of which 310 were of the pulmonary form and 47 other forms. Male tuberculosis deaths numbered 188, females 169. Of the male deaths, 32 were married in age period 18 to 40 and left 64 orphans under 12 years of age. Of the females, 60 were married in the same age period as above and left 120 orphans under 12 years of age. Total orphans under 12 years of age made in one month by this preventable disease, 184. Number of homes invaded, 341.

February, 1915.—Total number of tuberculosis deaths 352, of which 304 were of the pulmonary form and 48 other forms. Male tuberculosis deaths numbered 170, females 182. Of the male deaths, 30 were married in the age period 18 to 40 and left 60 orphans under 12 years of age. Of the females, 54 were married in the same age period as above and left 108 orphans under 12 years of age. Total orphans under 12 years of age made in one month by this preventable disease, 168. Number of homes invaded, 341.

March, 1915.—Total number of tuberculosis deaths 411, of which 364 were of the pulmonary form and 47 other forms. Male tuberculosis deaths numbered 214; females 197. Of the male

tuberculosis deaths, 43 were married in the age period 18 to 40 and left 86 orphans under 12 years of age. Of the females, 60 were married in the same age period as above and left 120 orphans under 12 years of age. Total orphans under 12 years of age made in one month by this preventable disease, 206. Number of homes invaded, 397.

April, 1915.—Total number of tuberculosis deaths 378, of which 311 were of the pulmonary form and 67 other forms. Male tuberculosis deaths numbered 200, females 178. Of the male, 40 were married in the age period of 18 to 40 and left 80 orphans under 12 years of age. Of the females, 68 were married in the same age period and left 136 orphans under 12 years of age. Total number of orphans made in one month by this preventable disease, 216. Number of homes invaded, 364.

May, 1915.—Total number of tuberculosis deaths 396, of which 340 were of the pulmonary form and 56 other forms. Male tuberculosis deaths numbered 199; females, 197. Of the males, 32 were married in the age period 18 to 40 and left 64 orphans under 12 years of age. Of the females 66 were married in the same age period as above, and left 132 orphans under 12 years of age. Total number of orphans made in one month by this preventable disease, 196. Number of homes invaded, 383.

June, 1915.—Total number of tuberculosis deaths 308, of which 258 were of the pulmonary form and 50 other forms. The male tuberculosis deaths numbered 142, females 166. Of the males 28 were married in the age period of 18 to 40 and left 56 orphans under 12 years of age. Of the females, 52 were married in the same age period as above and left 104 orphans under 12 years of age. Total number of orphans made in one month by this preventable disease, 160. Number of homes invaded, 295.

July, 1915.—Total number of tuberculosis deaths 304, of which 265 were of pulmonary form and 39 other forms. The male tuberculosis deaths numbered 153; females, 151. Of the males, 30 were married in the age period 18 to 40 and left 60 orphans under 12 years of age. Of the females 60 were married in the same age period as above and left 120 orphans under 12 years of age. Total number of orphans made in one month by this preventable disease, 180. Number of homes invaded, 291.

August, 1915.—Total number of tuberculosis deaths 287, of which 238 were of the pulmonary form and 49 other forms. The male tuberculosis deaths numbered 136; females, 151. Of the males, 22 were married in the age period 18 to 40 and left 44

orphans under 12 years of age. Of the females, 44 were married in the same age period and left 88 orphans under 12 years of age. Total number of orphans made in one month by this preventable disease, 132. Number of homes invaded, 271.

September, 1915.—Total number of tuberculosis deaths 268, of which 215 were of the pulmonary form and 53 other forms. The male tuberculosis deaths numbered 122; females, 146. Of the males, 17 were married in the age period of 18 to 40 and left 34 orphans under 12 years of age. Of the females 44 were married in the same age period as above, and left 88 orphans under 12 years of age. Total number of orphans made in one month by this preventable disease, 122. Number of homes invaded, 253.

October, 1915.—Total number of tuberculosis deaths 271, of which 242 were of the pulmonary form and 29 other forms. The male tuberculosis deaths numbered 153; females 118. Of the male 32 were married in the age period 18 to 40 and left 64 orphans under 12 years of age. Of the females, 26 were married in the same age period as above and left 52 orphans under 12 years of age. Total number of orphans made in one month by this preventable disease, 116; number of homes invaded, 260.

November, 1915.—Total number of tuberculosis deaths 276, of which 241 were of the pulmonary form and 35 other forms. Of the males, 17 were married in the age period of 18 to 40 and left 34 orphans under 12 years of age. Of the females, 41 were married in the same age period as above and left 82 orphans under 12 years of age. Total number of orphans made in one month by this preventable disease, 116. Number of homes invaded, 263.

December, 1915.—Total number of tuberculosis deaths 318, of which 273 were of the pulmonary form and 45 other forms. Of the males, 28 were married in the age period 18 to 40 and left 56 orphans under 12 years of age. Of the females, 51 were married in the same age period as above and left 102 orphans under 12 years of age. Total number of orphans made in one month by this preventable disease, 158. Number of homes invaded, 305.

PNEUMONIA, ALL FORMS.

Deaths by Months with Average for Past Ten Years.

MONTHS	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
January.....	490	445	425	303	349	484	483	444	447	434	430
February.....	439	646	454	384	327	422	413	414	370	580	444
March.....	541	533	414	546	417	373	441	482	510	566	479
April.....	404	290	277	436	223	338	323	271	487	396	341
May.....	233	276	166	188	193	173	154	184	210	138	191
June.....	119	144	74	64	127	56	71	99	88	91	93
July.....	88	63	45	47	59	56	60	85	70	64	63
August.....	82	68	52	52	79	62	81	63	73	42	65
September.....	98	75	60	75	87	82	93	71	65	86	80
October.....	189	145	103	130	154	116	167	128	109	124	136
November.....	300	218	195	196	199	208	210	214	180	212	212
December.....	400	301	243	253	426	248	342	247	281	365	310
Totals.....	3,392	3,303	2,517	2,638	2,740	2,612	2,838	2,672	2,960	3,098	2,856

PNEUMONIA, ALL FORMS.

Deaths by Ages with Averages for Past Ten Years.

AGES	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
Under 1 year.....	714	639	623	768	731	595	713	647	695	801	692
1 to 2 years.....	262	309	163	306	307	167	221	193	204	152	201
2 to 3 years.....	127	96	63	103	94	71	106	77	71	83	89
3 to 4 years.....	67	57	19	41	39	44	30	57	45	38	43
4 to 5 years.....	48	29	22	18	23	27	25	26	22	20	25
5 to 9 years.....	91	65	52	65	71	55	60	76	61	71	66
10 to 14 years.....	50	40	35	24	24	29	34	31	39	30	34
15 to 19 years.....	95	63	50	52	50	62	44	40	54	54	56
20 to 24 years.....	77	84	61	53	59	49	57	42	34	49	56
25 to 29 years.....	39	90	80	49	58	52	53	52	58	64	61
30 to 34 years.....	98	87	63	60	62	68	61	59	43	62	65
35 to 39 years.....	104	98	75	66	69	65	62	62	71	78	80
40 to 44 years.....	106	88	71	68	73	77	87	83	71	78	81
45 to 49 years.....	112	100	78	57	69	69	79	71	86	96	81
50 to 54 years.....	130	143	72	85	100	117	98	109	110	114	107
55 to 59 years.....	137	125	101	108	104	108	110	104	116	123	114
60 to 64 years.....	155	172	122	112	114	131	126	105	177	123	136
65 to 69 years.....	216	215	168	162	162	147	161	134	190	179	172
70 to 74 years.....	229	243	212	147	189	209	198	215	197	247	208
75 to 79 years.....	232	236	180	166	187	189	207	215	194	245	204
80 to 90 years.....	232	280	209	153	233	254	258	242	285	237	246
90 years and over.....	25	33	18	34	32	28	49	35	51	41	34

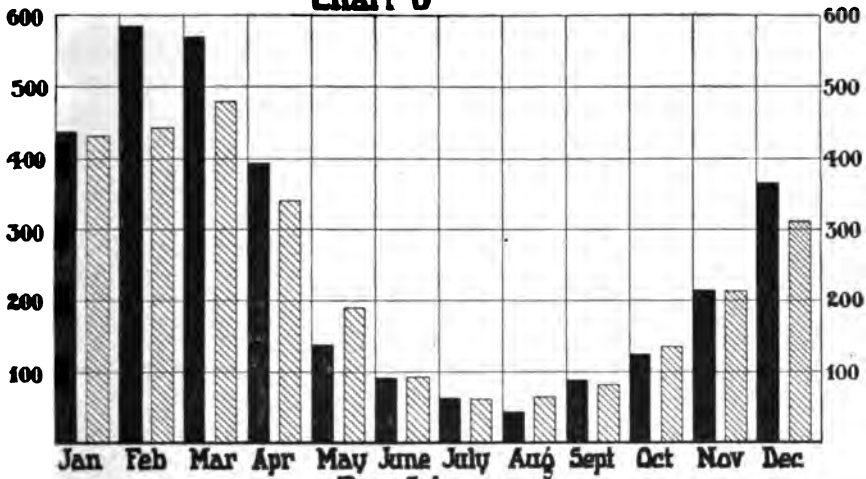
INDIANA PNEUMONIA ALL FORMS

By Months

■ 1915

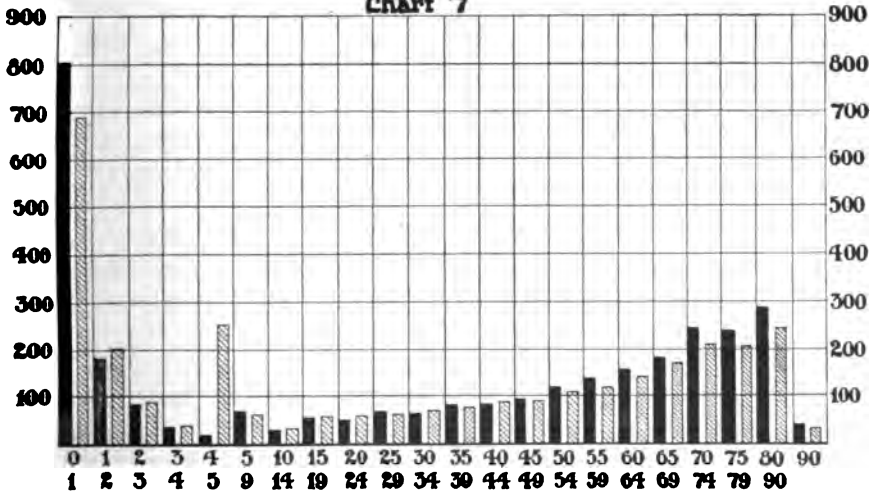
▨ Average for last ten yrs.

Chart 6



By Ages

Chart 7



MONTHLY ANALYSIS OF PNEUMONIA DEATHS.

(As published in Monthly Bulletin.)

January, 1915.—Total deaths 424; rate, 176.7 per 100,000. In the preceding month, 275 deaths; rate, 115.8. In the same month last year, 405 deaths, rate 170.5. Of the pneumonia deaths, 125 were under one year of age and 40 in the age period 90 to 99.

February, 1915.—Total deaths 548; rate, 252.8 per 100,000. In the preceding month, 424 deaths; rate, 176.7. In the same month last year, 356 deaths; rate, 165.9. Pneumonia killed 211 children 5 years of age and 154 persons between the ages of 70 and 99.

March, 1915.—Total deaths 528; rate, 219.6 per 100,000. In the preceding month, 548 deaths; rate, 252.8. In the same month last year 482 deaths; rate, 202.9. Of the pneumonia deaths, 221 were under 5 years of age.

April, 1915.—Total deaths 367; rate, 152.9 per 100,000. In the preceding month, 528 deaths; rate, 219.6. In the same month last year, 444 deaths; rate, 193.2.

May, 1915.—Total deaths 135; rate, 56.2 per 100,000. In the preceding month, 367 deaths; rate, 152.9. In the same month last year, 170 deaths; rate, 71.5.

June, 1915.—Total deaths 88; rate, 37.9 per 100,000. In the preceding month, 135 deaths; rate, 56.2. In the same month last year, 82 deaths; rate, 35.6.

July, 1915.—Total deaths 62; rate, 25.8 per 100,000. In the preceding month, 88 deaths; rate, 37.9. In the same month last year, 63 deaths; rate, 26.5. The male deaths numbered 31, females, 31.

August, 1915.—Total deaths 42, rate 17.5 per 100,000. In the preceding month 62 deaths; rate, 25.8. In the same month last year 68 deaths; rate, 28.6. The male deaths numbered 19, females 23.

September, 1915.—Total deaths 76; rate, 32.7 per 100,000. In the preceding month, 42 deaths; rate 17.5. In the same month last year, 58 deaths; rate 25.2.

October, 1915.—Total deaths 104; rate, 43.3 per 100,000. In the preceding month, 76 deaths; rate, 32.7. In the same month last year, 84 deaths; rate, 35.3. The male deaths numbered 61, females, 43.

November, 1915.—Total deaths 204; rate, 87.8 per 100,000. In the preceding month, 104 deaths; rate, 43.3. In the same month last year, 84 deaths, rate, 35.3. The male deaths numbered 107; females 97.

December, 1915.—Total deaths 350; rate, 145.8 per 100,000. In the preceding month, 204 deaths; rate, 87.8. In the same month last year, 275 deaths; rate, 115.8.

TYPHOID FEVER.

Deaths by Months with Average for Past Ten Years.

MONTHS	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
January.....	39	72	50	40	55	44	29	27	38	35	42
February.....	29	57	49	21	33	42	42	27	39	23	36
March.....	40	48	49	38	36	36	42	27	44	29	38
April.....	32	38	38	34	36	47	33	28	38	20	34
May.....	39	42	32	36	28	31	35	33	22	16	31
June.....	29	30	32	37	28	28	30	26	32	17	28
July.....	52	58	63	80	45	78	23	48	37	19	51
August.....	96	145	92	119	126	109	70	116	69	48	99
September.....	155	141	121	144	128	91	102	97	71	59	110
October.....	168	133	150	162	168	99	109	125	78	55	124
November.....	148	85	121	110	126	77	81	90	78	56	97
December.....	86	75	87	54	65	54	46	57	45	38	60
Totals.....	913	933	885	875	924	736	652	701	591	415	793

TYPHOID FEVER.

Deaths by Ages with Averages for Past Ten Years.

AGES	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
Under 1 year.....	12	8	11	9	6	1	4	7	5	3	6
1 to 2 years.....	11	7	10	10	12	9	10	12	10	7	9
2 to 3 years.....	13	13	19	15	12	16	11	13	12	10	13
3 to 4 years.....	19	13	19	10	12	11	10	11	8	5	11
4 to 5 years.....	18	10	12	11	18	14	7	12	9	14	12
5 to 9 years.....	66	58	45	64	62	50	49	61	50	32	53
10 to 14 years.....	85	92	72	82	74	65	53	54	40	41	65
15 to 19 years.....	138	145	106	141	125	92	97	97	70	36	104
20 to 24 years.....	120	126	121	102	138	106	78	104	85	55	104
25 to 29 years.....	94	94	96	90	90	64	63	59	60	39	74
30 to 34 years.....	76	79	76	74	74	63	55	51	42	27	61
35 to 39 years.....	62	67	57	55	71	57	44	48	44	31	53
40 to 44 years.....	34	46	45	37	47	40	41	38	43	22	39
45 to 49 years.....	37	41	40	36	45	25	30	28	24	23	32
50 to 54 years.....	36	32	41	34	39	30	24	26	26	14	29
55 to 59 years.....	22	24	29	32	37	28	19	19	18	13	24
60 to 64 years.....	18	28	28	24	11	24	20	19	13	14	19
65 to 69 years.....	16	16	17	20	19	25	15	14	15	11	16
70 to 74 years.....	10	17	15	9	19	17	11	16	10	8	13
75 to 79 years.....	15	10	11	8	14	8	7	7	3	6	8
80 to 89 years.....	8	5	4	10	9	1	4	5	4	2	5
90 years and over.....			1	2				1			

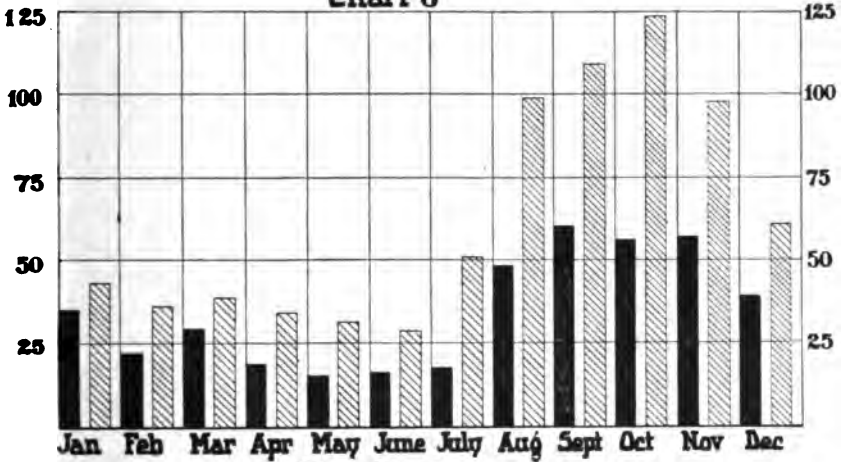
INDIANA TYPHOID FEVER DEATHS

■ 1915

By Months

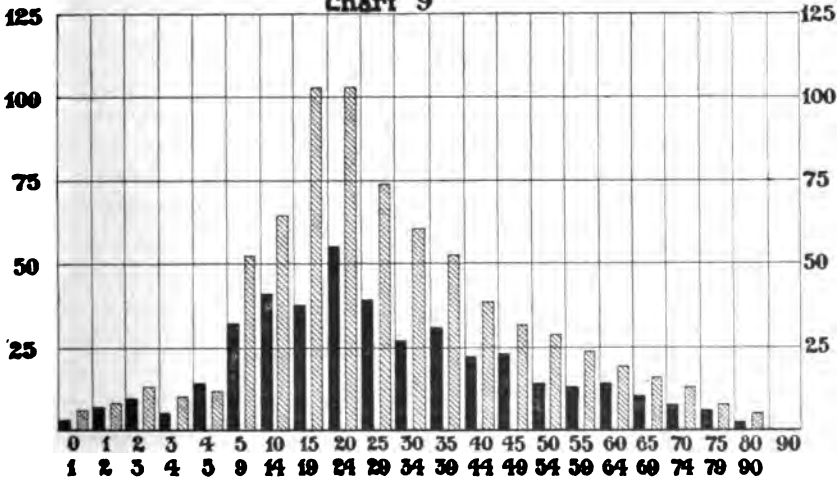
▨ Average for last ten yrs

Chart 8



By Ages

Chart 9



DEATHS FROM TYPHOID FEVER FOR YEAR 1915.

Total Number Deaths, and Death Rates per 100,000 Population.

COUNTIES	Total	Male	Female	Rates	COUNTIES	Total	Male	Female	Rates
NORTHERN COUNTIES	117	59	58	11.9	CENTRAL CO. Cont.				
Adams	7	4	3	31.8	Madison	8	6	2	12.0
Allen	6	4	2	59.4	Marion	39	27	12	13.4
Benton					Monroe	3	3		12.2
Blackford	1		1	6.2	Montgomery	2	1	1	6.5
Carroll	4	1	3	22.2	Morgan	5	4	1	23.2
Cass	11	7	4	29.3	Owen	2		2	14.2
Dekalb	2		2	7.8	Parke	3	2	1	13.5
Elkhart	5	3	2	9.8	Putnam	5	3	2	24.3
Fulton	3	1	2	17.7	Randolph				
Grant	9	1	8	17.2	Rush	1	1		5.1
Howard	5	2	3	14.0	Shelby	6	4	2	21.6
Huntington	4	2	2	13.6	Tipppecanoe	8	5	3	19.5
Jasper	2	1	1	15.2	Tipton	1	1		5.6
Jay	2	1	1	7.9	Union				
Kosciusko	2	2		7.1	Vermillion				
Lagrange	2	1	1	13.2	Vigo	18	9	9	18.3
Lake	16	10	6	14.9	Warren	4	3	1	16.3
Laporte	4		4	8.3	Wayne	4	2	2	8.7
Marshall	1	1		4.1					
Miami	5	4	1	16.4	SOUTHERN COUNTIES	143	74	69	21.1
Newton	2	1	1	19.0	Clark	5	1	4	16.5
Noble	3	1	2	12.1	Crawford	4	3	1	33.2
Porter	1	1		4.8	Daviess	5	3	2	8.0
Pulaski					Dearborn				
Starke	1		1	9.4	Dubois	2	2		10.0
Steuben	2	1	1	13.8	Floyd	7	3	4	23.0
St. Joseph	7	5	2	7.4	Gibson	11	3	8	36.3
Wabash	2	2		7.4	Greene	7	5	2	17.4
Wells	1		1	4.4	Harrison	6	3	3	29.6
White	5	3	2	28.3	Jackson	4	2	2	16.1
Whitley	2		2	11.7	Jefferson	4	1	3	19.5
CENTRAL COUNTIES	155	100	55	13.2	Jennings	5	3	2	35.1
Bartholomew	4	4		15.9	Knox	9	7	2	21.5
Boone	8	7	1	31.9	Lawrence	9	5	4	27.8
Brown					Martin	2		2	15.0
Clay	3	2	1	9.0	Ohio				
Clinton	3		3	11.0	Orange	5	1	4	28.8
Decatur	5	2	3	26.4	Perry	6	4	2	32.7
Delaware	9	4	5	17.1	Pike	6	4	2	30.4
Fayette	2	1	1	13.5	Posey	3	1	2	13.7
Fountain	2	2		9.7	Ripley	1		1	5.0
Franklin	2	1	1	13.0	Scott	1		1	11.4
Hamilton					Spencer	6	3	3	29.0
Hancock	3	3		11.0	Sullivan	6	2	4	17.1
Hendricks	2	2		9.5	Switzerland				
Henry	1		1	3.2	Vanderburgh	22	14	8	26.9
Johnson	2	1	1	9.7	Warrick	4	2	2	17.9
					Washington	3	2	1	17.2
STATE	415	233	182	14.6	URBAN	190			14.9
					RURAL	225			14.5

MONTHLY ANALYSIS FOR TYPHOID FEVER.

(As published in Monthly Bulletin.)

January, 1915.—112 cases in 35 counties with 34 deaths. In the preceding month, 152 cases in 43 counties with 41 deaths. In the same month last year, 142 cases in 40 counties with 37 deaths.

February, 1915.—71 Cases in 26 counties with 23 deaths. In the preceding month, 112 cases in 35 counties with 34 deaths. In the same month last year, 312 cases in 56 counties with 39 deaths.

March, 1915.—101 cases in 25 counties with 35 deaths. In the preceding month, 71 cases in 26 counties with 23 deaths. In the same month last year, 132 cases in 37 counties with 45 deaths.

April, 1915.—67 cases in 26 counties with 18 deaths. In the preceding month, 101 cases in 25 counties with 35 deaths. In the same month last year, 83 cases in 26 counties with 33 deaths.

May, 1915.—67 cases in 24 counties with 17 deaths. In the preceding month, 67 cases in 26 counties, with 18 deaths. In the same month last year, 79 cases with 35 counties with 21 deaths.

June, 1915.—70 cases in 28 counties with 17 deaths. In the preceding month, 67 cases in 24 counties with 17 deaths. In the same month last year, 124 cases in 30 counties with 31 deaths.

July, 1915.—149 cases in 37 counties with 17 deaths. In the preceding month, 70 cases in 28 counties with 17 deaths. In the same month last year, 193 cases in 48 counties with 34 deaths.

August, 1915.—278 cases in 55 counties with 58 deaths. In the preceding month, 241 cases in 54 counties with 46 deaths. In the same month last year, 323 cases in 62 counties with 70 deaths.

September, 1915.—278 cases in 55 counties with 58 deaths. In the preceding month 241 cases in 54 counties with 46 deaths. In the same month last year, 323 cases in 62 counties with 70 deaths.

October, 1915.—249 cases reported from 53 counties with 55 deaths. In the preceding month, 278 cases in 55 counties with 58 deaths. In the same month last year, 414 cases in 69 counties with 75 deaths.

November, 1915.—133 cases in 45 counties with 57 deaths. In the preceding month 249 cases in 53 counties with 55 deaths. In the same month last year, 414 cases in 69 counties with 75 deaths.

December, 1915.—180 cases in 41 counties with 36 deaths. In the preceding month 133 cases in 45 counties with 57 deaths. In the same month last year 152 cases in 43 counties with 41 deaths.

DIPHTHERIA.

Deaths by Months with Average for Past Ten Years.

MONTHS	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
January.....	33	43	42	38	42	40	25	70	46	33	41
February.....	23	41	28	24	19	31	29	53	41	30	31
March.....	26	35	24	19	32	22	25	27	35	21	26
April.....	16	27	12	10	15	17	19	22	21	14	15
May.....	8	20	12	5	15	9	19	33	21	8	15
June.....	12	10	8	3	18	18	7	33	13	11	12
July.....	11	15	11	8	11	12	10	21	11	17	12
August.....	13	20	12	19	24	13	25	37	21	10	19
September.....	36	35	32	26	28	32	68	44	28	23	35
October.....	77	36	43	35	52	78	107	59	39	43	56
November.....	82	37	47	57	79	54	106	76	52	47	63
December.....	65	34	44	55	46	47	78	51	57	45	52
Totals.....	402	353	315	338	381	374	518	516	385	302	388

DIPHTHERIA.

Deaths by Ages with Averages for Past Ten Years.

AGES	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
Under 1 year.....	26	20	21	21	28	21	23	26	27	13	22
1 to 2 years.....	45	34	43	31	44	35	61	47	42	30	41
2 to 3 years.....	51	35	54	52	43	53	63	53	55	33	49
3 to 4 years.....	47	51	36	46	42	49	56	61	35	24	45
4 to 5 years.....	58	20	23	40	43	51	52	44	35	25	40
5 to 9 years.....	124	127	90	117	119	110	167	170	135	104	126
10 to 14 years.....	35	32	23	28	35	34	52	67	35	36	37
15 to 19 years.....	10	7	9	7	14	7	11	20	9	13	10
20 to 24 years.....	1	8	3	5	4	3	14	6	1	3	4
25 to 29 years.....	.....	3	3	.....	4	2	7	3	2	1	2
30 to 34 years.....	.....	1	4	1	1	3	7	5	2	4	2
35 to 39 years.....	1	2	3	1	1	1	3	5	1	1	1
40 to 44 years.....	2	2	.....	.....	1	.....	2	2	.....	.....	.....
45 to 49 years.....	.....	1	.....	.....	.....	.....	.....	.....	.....	3	.....
50 to 54 years.....	1	.....	.....	.....	1	.....	.....	1	1	.....	.....
55 to 59 years.....	.....	1	1	.....	.....	.....	.....	.....	1	1	.....
60 to 64 years.....	.....	.....	1	.....	1	.....	.....	1	.....	.....	.....
65 to 69 years.....	.....	.....	.....	.....	.....	2	.....	1	.....	.....	.....
70 to 79 years.....	.....	.....	.....	.....	.....	.....	1	4	3	1	.....

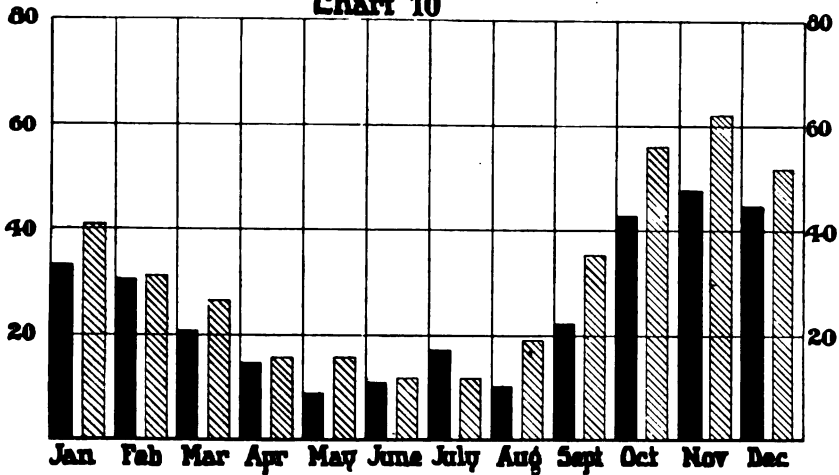
INDIANA DIPHTHERIA DEATHS

■ 1915

By Months

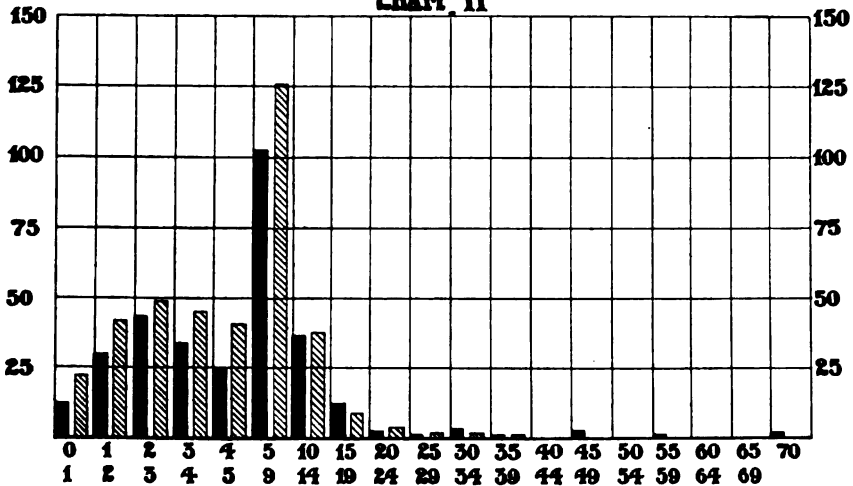
▨ Average for last ten yrs

Chart 10



By Ages

Chart 11



MONTHLY ANALYSIS FOR DIPHTHERIA DEATHS.

(As published in Monthly Bulletin.)

January, 1915.—300 cases in 47 counties with 33 deaths. In the preceding month, 436 cases in 57 counties with 53 deaths. In the same month last year, 409 cases in 65 counties with 42 deaths.

February, 1915.—251 cases in 41 counties with 30 deaths. In the preceding month, 300 cases in 47 counties with 33 deaths. In the same month last year, 312 cases in 56 counties with 39 deaths.

March, 1915.—187 cases in 40 counties with 20 deaths. In the preceding month, 251 cases in 41 counties with 30 deaths. In the same month last year, 186 cases in 45 counties with 33 deaths.

April, 1915.—126 cases in 27 counties with 14 deaths. In the preceding month, 187 cases in 40 counties with 20 deaths. In the same month last year, 157 cases in 38 counties with 29 deaths.

May, 1915.—104 cases in 36 counties with 9 deaths. In the preceding month 126 cases in 27 counties with 14 deaths. In the same month last year, 137 cases in 34 counties with 19 deaths.

June, 1915.—71 cases in 22 counties with 11 deaths. In the preceding month, 104 cases in 36 counties with 9 deaths. In the same month last year, 82 cases in 22 counties with 13 deaths.

July, 1915.—101 cases in 26 counties with 17 deaths. In the preceding month, 71 cases in 22 counties with 11 deaths. In the same month last year, 119 cases in 29 counties with 10 deaths.

August, 1915.—124 cases in 54 counties with 8 deaths. In the preceding month, 101 cases in 26 counties with 17 deaths. In the same month last year 149 cases in 35 counties with 20 deaths.

September, 1915.—269 cases in 43 counties with 24 deaths. In the preceding month, 124 cases in 34 counties with 8 deaths. In the same month last year, 240 cases in 47 counties with 28 deaths.

October, 1915.—543 cases in 60 counties with 43 deaths. In the preceding month 269 cases in 43 counties with 24 deaths. In the same month last year, 581 cases in 54 counties with 37 death.

November, 1915.—553 cases in 61 counties with 43 deaths.
In the preceding month, 543 cases in 60 counties with 43 deaths.
In the same month last year, 581 cases in 54 counties with 39 deaths.

December, 1915.—317 cases in 49 counties with 45 deaths.
In the preceding month, 553 cases in 61 counties with 43 deaths.
In the same month last year, 436 cases in 57 counties with 53 deaths.

SCARLET FEVER.

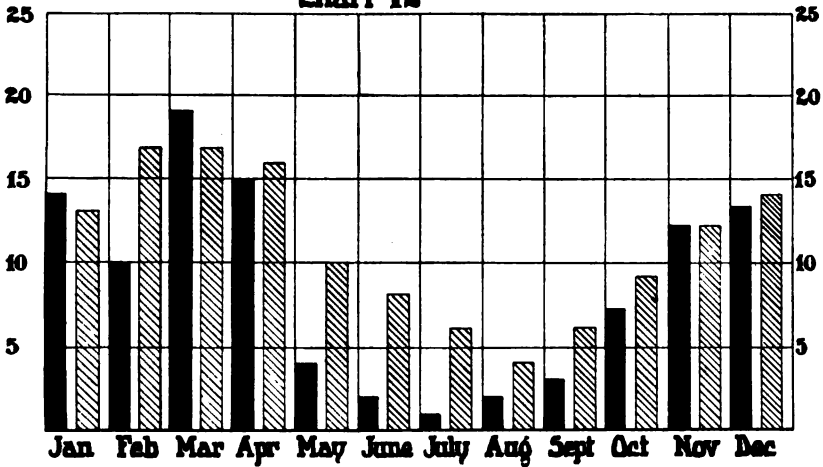
INDIANA SCARLET FEVER DEATHS

■ 1915

By Months

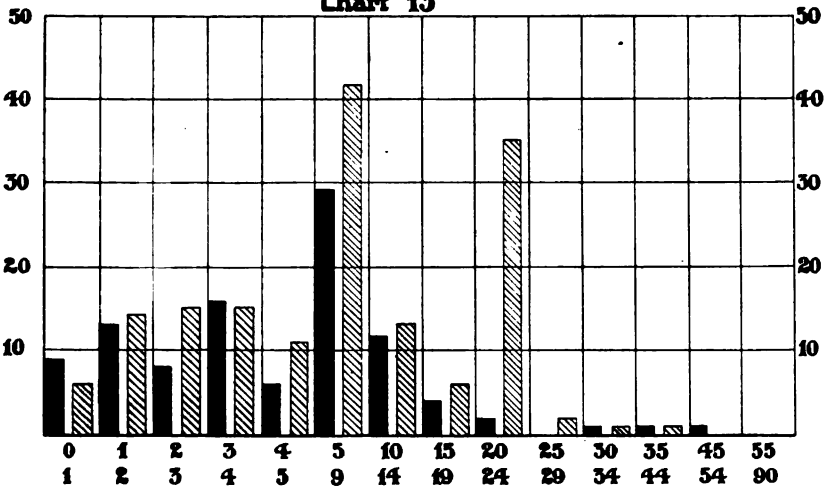
▨ Average for last ten yrs.

Chart 12



By Ages

Chart 13



DIARRHOEAL DISEASES.

(UNDER TWO YEARS OF AGE.)

Deaths by Months with Average for Past Ten Years.

MONTHS	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
January.....	28	34	39	34	45	54	50	42	59	50	43
February.....	25	34	33	46	30	42	45	38	42	45	38
March.....	29	35	34	57	39	52	50	61	54	54	46
April.....	39	18	48	39	45	52	53	63	58	61	47
May.....	42	35	39	34	63	57	45	50	76	51	49
June.....	71	81	89	165	128	141	57	104	91	51	97
July.....	321	396	322	480	491	357	272	339	279	141	337
August.....	484	503	420	441	528	285	376	426	320	198	398
September.....	447	280	292	304	356	280	360	229	295	220	304
October.....	232	160	204	146	203	208	218	249	223	151	199
November.....	66	40	83	50	72	75	68	84	89	77	70
December.....	39	25	32	53	49	46	34	47	41	57	42
Totals.....	1,823	1,639	1,635	1,841	2,049	1,629	1,625	1,832	1,627	1,156	1,686

DIARRHOEAL DISEASES.

(TWO YEARS OF AGE AND OVER)

Deaths by Months with Average for Past Ten Years.

MONTHS	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
January.....	26	40	38	30	36	20	25	22	33	22	29
February.....	36	33	26	28	20	27	34	19	22	14	25
March.....	35	41	35	37	28	29	35	25	24	21	31
April.....	41	38	28	22	24	32	27	18	20	27	28
May.....	30	29	43	38	29	23	29	25	21	17	28
June.....	29	63	57	46	34	35	29	48	20	20	39
July.....	78	150	116	35	99	66	66	78	63	38	78
August.....	119	203	165	105	146	70	112	108	84	62	117
September.....	130	122	143	76	83	51	102	68	61	59	89
October.....	92	62	88	34	62	48	56	51	41	49	58
November.....	39	42	50	35	28	31	30	31	30	24	34
December.....	40	24	28	27	31	40	21	15	23	30	27
Totals.....	695	847	817	563	620	492	566	506	460	383	594

INDIANA DIARRHEAL DISEASES

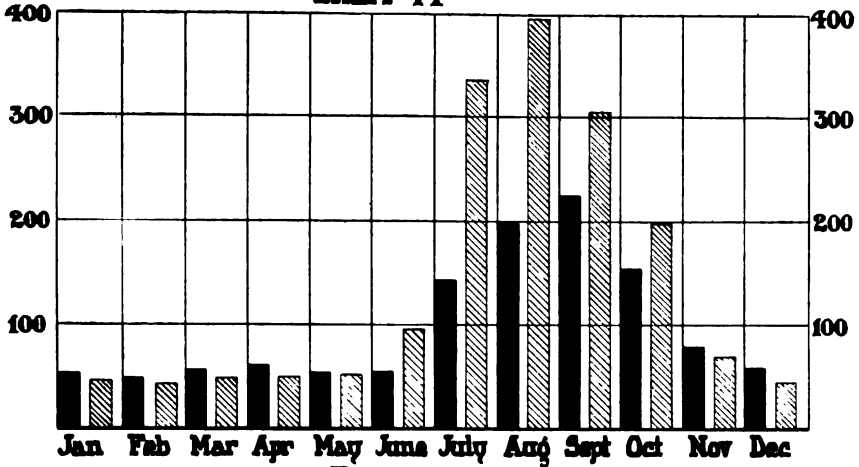
Under two years of age

■ 1915

By Months

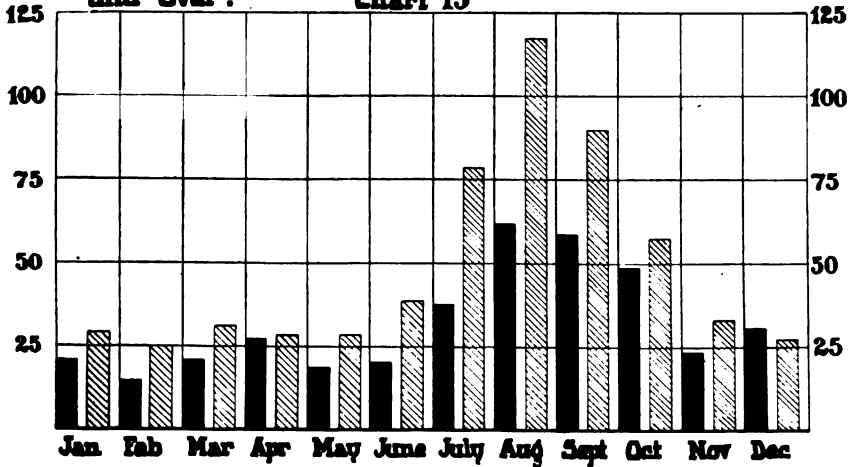
▨ Average for last ten yrs.

Chart 14-



Two years and over.

Chart 15



DIARRHOEAL DISEASE.

Deaths by Ages with Averages for Past Ten Years.

AGES	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
Under 1 year.....	1,240	1,202	1,202	1,340	1,576	1,260	1,219	1,437	1,200	839	1,251
1 to 2 years.....	417	437	433	501	473	369	406	395	427	317	417
2 to 3 years.....	116	105	126	125	140	82	134	100	133	74	113
3 to 4 years.....	31	33	34	25	37	22	28	38	20	25	29
4 to 5 years.....	20	11	16	18	13	13	12	18	6	12	13
5 to 9 years.....	17	19	16	19	22	23	19	18	17	11	18
10 to 14 years.....	6	12	6	7	9	4	11	6	10	6	7
15 to 19 years.....	8	4	3	5	9	4	2	8	2	1	4
20 to 24 years.....	12	16	14	8	8	9	10	8	6	6	9
25 to 29 years.....	21	7	14	11	3	6	7	7	6	4	8
30 to 34 years.....	10	10	11	14	7	11	11	7	10	7	9
35 to 39 years.....	17	20	13	11	10	13	6	15	9	7	12
40 to 44 years.....	19	13	12	20	11	11	9	12	15	10	13
45 to 49 years.....	14	13	19	17	15	14	19	7	11	9	13
50 to 54 years.....	30	30	20	29	19	19	14	18	10	12	20
55 to 59 years.....	37	35	46	19	16	21	25	16	19	14	24
60 to 64 years.....	59	61	45	42	37	34	27	23	16	18	36
65 to 69 years.....	90	78	78	98	50	37	38	32	25	27	55
70 to 74 years.....	99	97	81	92	61	45	54	38	32	45	64
75 to 79 years.....	107	117	103	132	66	43	62	43	42	29	74
80 to 90 years.....	124	141	132	148	66	71	62	83	58	59	94
90 years and over.....	18	20	22	33	17	10	16	8	13	7	16

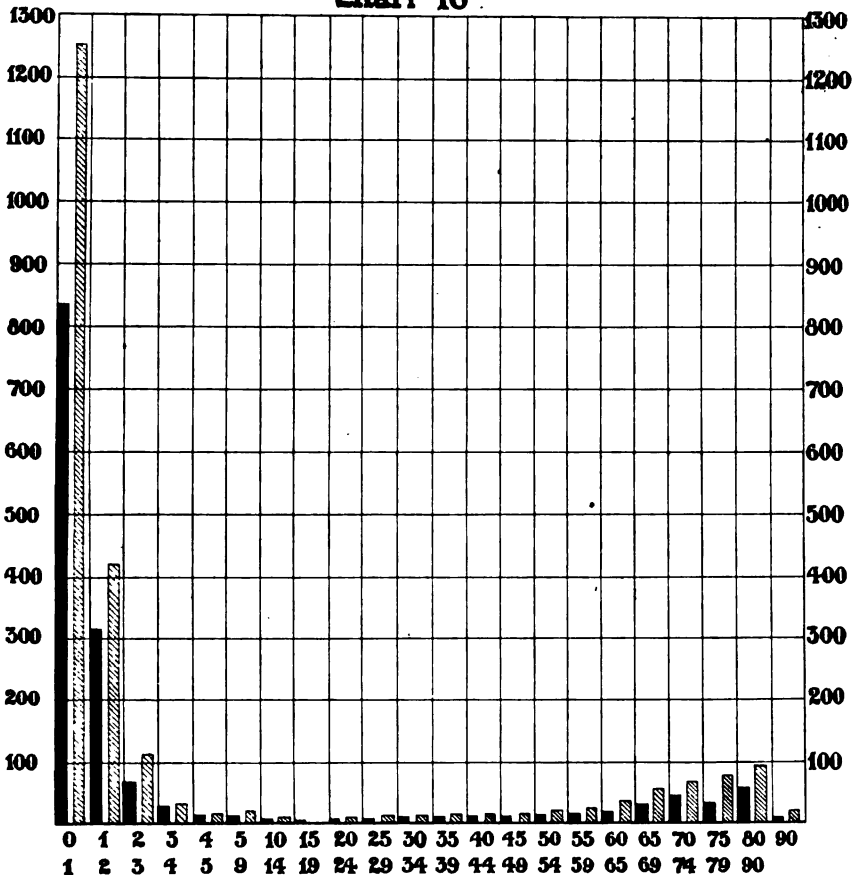
INDIANA DIARRHEAL DISEASES

By Ages.

■ 1915

▨ Average for last ten yrs.

Chart 16



INFLUENZA.

Deaths by Months with Average for Past Ten Years.

MONTHS	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
January.....	53	71	173	54	88	197	72	143	47	55	95
February.....	44	159	316	77	144	172	98	68	51	123	125
March.....	48	234	167	126	201	164	74	83	71	137	129
April.....	30	51	70	135	97	90	46	39	57	76	69
May.....	7	52	40	42	36	19	9	20	28	23	27
June.....	2	14	13	9	10	3	7	6	2	6	7
July.....	4	7	9	9	12	1	6	4	3	3	5
August.....	2	4	14	4	4	4	1	3	1	1	3
September.....	3	4	5	7	3	.....	6	3	3	1	3
October.....	8	2	4	4	10	7	11	5	2	6	5
November.....	11	17	22	10	22	23	18	15	6	10	15
December.....	12	51	35	27	75	37	73	17	21	68	41
Totals.....	224	666	867	504	701	659	421	406	292	509	524

INFLUENZA.

Deaths by Ages with Averages for Past Ten Years.

AGES	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
Under 1 year.....	14	26	32	44	46	42	33	21	19	40	31
1 to 2 years.....	3	12	11	11	18	15	10	10	9	7	10
2 to 3 years.....	5	5	10	5	14	8	7	8	1	7	7
3 to 4 years.....	.....	3	6	4	3	7	2	1	1	3	3
4 to 5 years.....	2	.....	1	2	4	2	4	1	.....	4	2
5 to 9 years.....	2	4	10	2	9	10	9	5	5	12	6
10 to 14 years.....	3	6	10	9	6	4	3	4	4	4	5
15 to 19 years.....	4	11	16	7	9	15	7	4	4	9	8
20 to 24 years.....	3	11	13	6	14	16	8	7	9	8	9
25 to 29 years.....	.....	5	11	9	16	8	7	5	9	4	7
30 to 34 years.....	2	18	15	.....	18	18	7	5	4	9	9
35 to 39 years.....	4	14	24	9	15	22	9	6	4	10	11
40 to 44 years.....	3	9	21	10	22	17	8	13	5	9	11
45 to 49 years.....	10	23	30	8	23	22	7	5	5	13	14
50 to 54 years.....	13	26	37	14	26	23	22	14	11	16	20
55 to 59 years.....	6	38	34	35	38	36	14	25	18	26	27
60 to 64 years.....	11	24	50	29	34	41	24	19	21	31	28
65 to 69 years.....	24	73	86	46	69	59	45	34	26	49	51
70 to 74 years.....	31	94	115	52	87	74	34	48	30	64	62
75 to 79 years.....	31	89	131	80	96	72	52	64	44	61	72
80 to 90 years.....	43	151	182	103	122	130	85	84	58	103	106
90 years and over.....	8	23	21	15	19	18	23	21	5	20	17

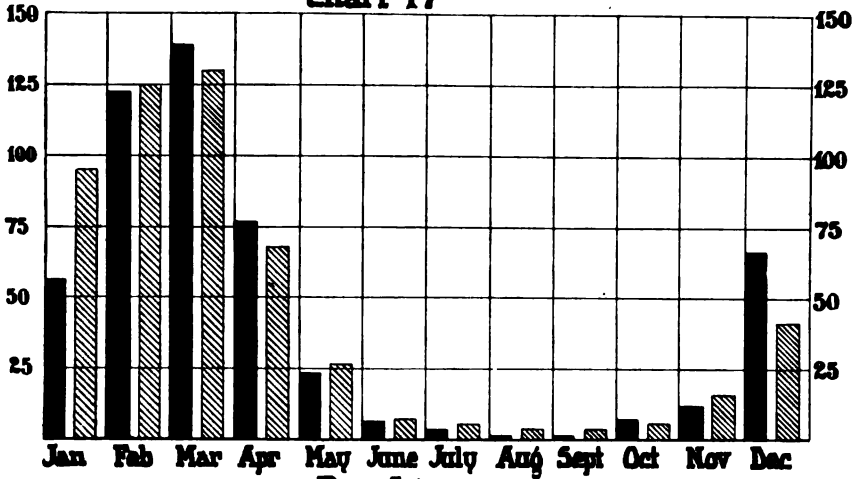
INDIANA INFLUENZA DEATHS

By Months

■ 1915

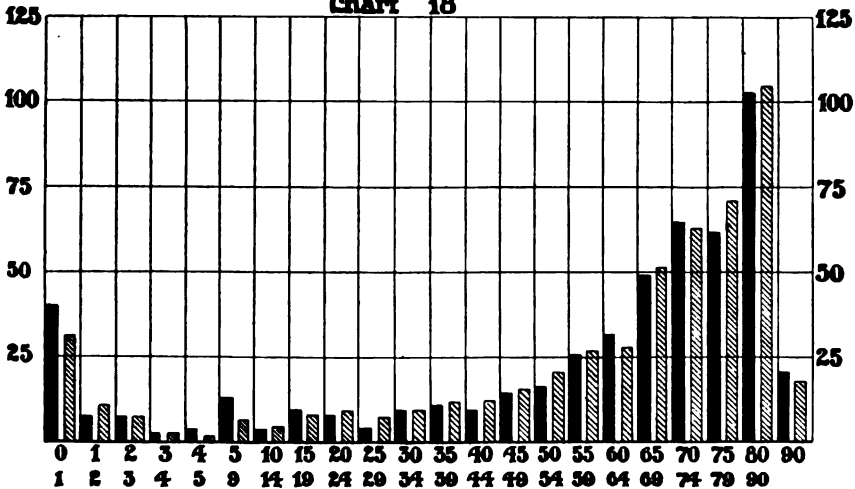
▨ Average for last yrs.

Chart 17



By Ages

Chart 18



MEASLES.

Deaths by Months with Average for Past Ten Years.

MONTHS	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Av.
January	2	7	8	5	21	19	9	26	10	3	11
February	2	10	57	15	62	32	5	56	16	5	25
March		28	52	23	102	61	7	87	24	6	39
April	7	40	47	41	83	92	14	103	29	13	46
May	4	61	24	27	87	44	12	92	28	13	38
June	3	31	11	14	41	14	11	55	20	8	20
July		23	2	13	22	9	7	16	7	2	10
August	1	5	2	9	18	4	3	12	4	1	5
September		9	1	3	3	3	1	2	1		3
October		4	4		5	1		1	4	2	2
November	2	3		3	9		1	3	6	6	3
December	2	9	1	3	9	1	3	9	2	10	4
Totals	23	213	209	156	462	280	73	461	151	69	209

MEASLES.

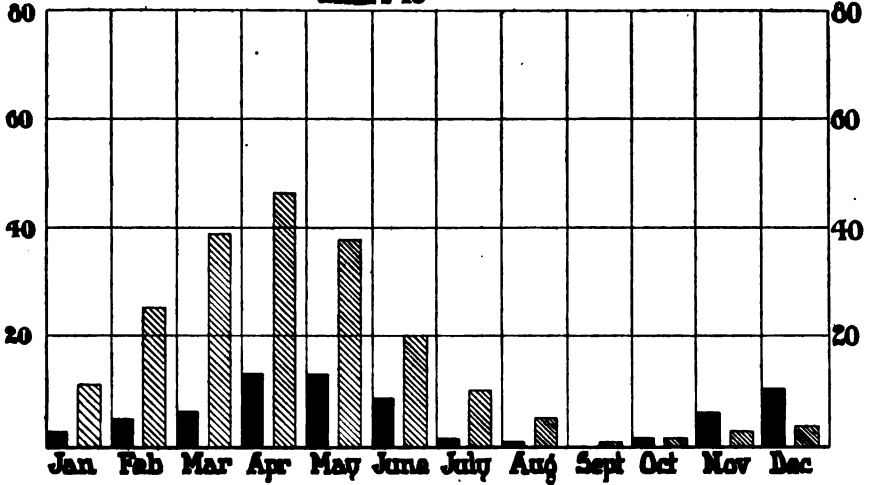
Deaths by Ages with Averages for Past Ten Years.

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INDIANA MEASLES DEATHS

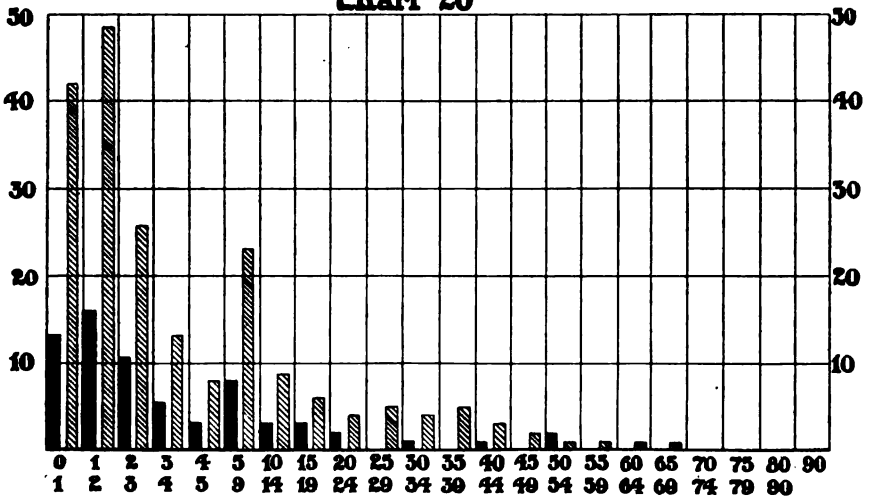
■ 1915. By Months ▨ Average for last ten yrs.

Chart 19



By Ages

Chart 20



SMALLPOX.

Table Giving Number of Deaths by Months for the Past Ten Years.

MONTHS	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	Total	Av.
January.....		3						1	1	1	6	.....
February.....		2	1		1		2			1	7	.....
March.....			2			2	3	1		1	9	.....
April.....	1	1	2	1			2		1	3	11	1
May.....		1		3					1	1	6	.....
June.....		1	3			1	3	1	1		10	1
July.....	1			2				1			4	.....
August.....								1	1	2	4	.....
September.....	2										2	.....
October.....	3						1	3			7	.....
November.....				1				3	1		5	.....
December.....	1		2				1		2	1	7	.....
Totals.....	8	8	10	7	1	3	12	11	8	10	78	2

MONTHLY ANALYSIS OF SMALLPOX DEATHS.

(As published in Monthly Bulletin.)

January, 1915.—528 cases in 41 counties with 1 death. The following counties reported smallpox present: Adams 1 case, Allen 1, Blackford 23, Boone 1, Clinton 20, Daviess 12, Delaware 85, Dubois 8, Elkhart 2, Floyd 2, Fountain 2, Gibson 10, Grant 12, Hamilton 1, Hancock 2, Henry 1, Jackson 3, Jay 41, Jefferson 26, Jennings 9, Johnson 1, Knox 33, Lagrange 10 cases and 1 death, Lake 5, Laporte 1, Lawrence 11, Madison 27, Marion 5, Martin 8, Montgomery 8, Orange 11, Parke 1, Pike 2, Porter 11, Posey 58, Randolph 2, Tippecanoe 14, Vanderburgh 9, Vigo 18, Washington 19, Wells 12.

February, 1915.—415 cases in 38 counties with 1 death. The following counties reported smallpox present: Blackford 4 cases, Clark 23, Clinton 55, Daviess 6, Dearborn 3, Delaware 62, Dubois 1, Floyd 2, Fountain 11, Fulton 3, Greene 2, Hancock 9, Henry 3, Huntington 3, Jay 33, Jefferson 8, Johnson 3, Knox 37, Lagrange 2, Lake 3, Madison 7, Marion 10, Martin 1, Miami 1, Montgomery 1, Newton 2, Parke 1, Putnam 18 cases and 1 death, Ripley 33 cases, Shelby 1, Switzerland 2, Tippecanoe 14, Vanderburgh 18, Vigo 15, Wabash 12, Warrick 1, Washington 4, White 1.

March, 1915.—524 cases in 42 counties with 1 death. The following counties reported smallpox present: Allen 2, Benton 1, Blackford 23 cases and 1 death, Delaware 82, Dubois 3, Elkhart 4, Floyd 5, Fountain 5, Gibson 7, Hamilton 3, Hancock 3, Henry 6, Howard 1, Huntington 20, Jackson 1, Jay 13, Jefferson 2, Knox 41, Lake 4, Lawrence 2, Madison 4, Marion 10, Miami 4,

Newton 11, Orange 8, Parke 7, Pike 32, Posey 16, Putnam 6, Randolph 3, Ripley 8, Scott 7, Switzerland 6, Tippecanoe 3, Vanderburgh 53, Vigo 9, Warrick 4, Washington 2, White 5.

April, 1915.—471 cases in 35 counties with 3 deaths. The following counties reported smallpox present: Benton some, Blackford 15, Clark 21, Clinton 30, Daviess 10, Delaware 111, Dubois 1, Floyd 3, Fountain 3, Fulton 1, Gibson 9, Grant 1, Greene 3, Hamilton 5, Howard 2, Huntington 3, Jay 8, Knox 48, Lake 10, Lawrence 12, Madison 43, Marion 1, Morgan 1, Newton 8, Noble 1, Pike 33, Posey 6, Rush 2, Scott 15, St. Joseph 1, Tippecanoe 6, Vanderburgh 24, Vigo 40, Warren 1, Washington 1, White 2. The deaths occurred in Delaware County, female 8 years; Madison County, female 62 years; Pike County, male 50 years.

May, 1915.—268 cases in 40 counties with 1 death. The following counties reported smallpox present: Blackford 4, Clark 6, Clinton 5, Daviess 5, Delaware 74, Dubois 1, Elkhart 4, Floyd 1, Fountain 5, Fulton 1, Gibson 8, Greene 2, Hamilton 19, Henry 13, Howard 4, Jackson 5, Jay 1, Knox 46, Lake 3, Marion 113, Montgomery 1, Ohio 1, Pike 20, Scott 10, St. Joseph 12, Vanderburgh 7. The death occurred in Knox County, female, 79 years.

June, 1915.—328 cases in 33 counties with no deaths. The following counties reported small pox present: Allen 2, Blackford 1, Cass 10, Clinton 1, Daviess 3, Delaware 38, Elkhart 2, Fountain 15, Gibson 24, Grant 1, Hamilton 1, Howard 2, Huntington 1, Jackson 10, Jay 1, Jennings 2, Knox 33, Lake 1, Lawrence 10, Madison 39, Marion 3, Martin 20, Pike 15, Pulaski 6, Randolph 5, Shelby 15, St. Joseph 1, Tippecanoe 2, Vanderburgh 2, Vermillion 4, Vigo 37, Warren 3, Wells 8.

July, 1915.—141 cases in 28 counties with no deaths. The following counties reported smallpox present: Allen 4, Blackford 5, Boone 1, Clay 1, Clinton 1, Delaware 4, Elkhart 3, Fountain 5, Gibson 25, Hancock 1, Hendricks 1, Jasper 2, Jay 3, Jennings 5, Johnson 1, Knox 8, Lawrence 20, Madison 11, Marion 3, Miami 1, Montgomery 5, Pike 4, Ripley 1, Shelby 4, Vanderburgh 3, Vermillion 1, Vigo 16, Warren 2.

August, 1915.—93 cases in 13 counties with 2 deaths. The following counties reported smallpox present: Delaware 11 cases, Elkhart 1 death, male two months, Fountain 22 cases, Gibson 16,

Hendricks 5, Jackson 2, Knox 9, Lawrence 1, Madison 1, Shelby 9 cases and 1 death, female 10 months, Vanderburgh 5, Vigo 8, Washington 2, White 1.

September, 1915.—57 cases in 16 counties with no deaths. The following counties reported smallpox present: Allen 2, cases Blackford 1, Cass 2, Gibson 10, Grant 5, Knox 2, Lake 3, Madison 2, Pike 1, Pulaski 1, Tippecanoe 7, Vanderburgh 6, Vermillion 5, Vigo 5, Wayne 1, White 3.

October, 1915.—39 cases in 8 counties with no deaths. The following counties reported smallpox present: Elkhart 5, Fountain 2, Gibson 15, Grant 1, Jasper 5, Lake 3, Madison 3, Vanderburgh 5.

November, 1915.—127 cases in 16 counties with no deaths. The following counties reported smallpox present: Allen 1 case, Dearborn 1, Fountain 32, Gibson 16, Jennings 3, Johnson 1, Knox 2, Lake 14, Madison 5, Montgomery 3, Newton 1, Pike 15, Starke 1, Vanderburgh 29, Vigo 2, Washington 1.

December, 1915.—246 cases in 20 counties with 1 death. The following counties reported smallpox present: Carroll 4 cases, Clinton 3, Fountain 20, Gibson 1, Jackson 3, Jasper 4, Jennings 9, Johnson 8, Knox 31, Lake 9, Madison 2, Miami 4, Montgomery 2, Pike 3, Posey 1, Sullivan 1, Tippecanoe 1, Vanderburgh 82, Vigo 58. The death occurred in Sullivan County, female 5 years.

EXTERNAL CAUSES.

Affections Produced by External Causes for Past Six Years.

YEARS.	1910	1911	1912	1913	1914	1915
Suicides by Poisonings.....	170	171	222	203	226	147
Suicides by Asphyxia.....	6	12	18	18	14	13
Suicides by Hanging or Strangulation.....	64	78	63	47	60	64
Suicides by Drowning.....	22	45	18	30	27	26
Suicides by Firearms.....	95	45	101	114	121	130
Suicides by Cutting or Piercing Instruments.....	11	19	26	20	23	23
Suicides from Jumping from High Places.....	3	4	1	2	1	4
Suicides by Crushing.....	11	7	6	4	5	9
Other Suicides.....	4	3	3	3	1	9
Poisoning by Food.....	11	19	47	43	39	26
Other Acute Poisoning.....	67	69	68	74	82	45
Conflagration.....	14	12	15	19	31	33
Burns (Conflagration Excepted).....	169	202	184	173	148	152
Absorption of Deleterious Gases (Conflagration Excepted).....	29	47	80	68	74	54
Accidental Drowning.....	144	183	185	275	162	148
Traumatism by Firearms.....	70	68	59	85	63	72
Traumatism by Cutting or Piercing Instruments.....	8	28	17	25	15	21
Traumatism by Fall.....	414	441	452	465	434	467
Traumatism in Mines and Quarries.....	63	50	43	68	50	56
Traumatism by Machines.....	59	43	57	66	50	49
Railroad Accidents and Injuries.....	433	423	445	493	354	335
Street Car Accidents and Injuries.....	137	79	87	95	89	71
Automobile and Other Vehicles.....	82					
Automobile Accidents.....		33	48	83	90	125
Injuries by Other Vehicles.....		46	68	82	93	94
Other Crushings.....	87	98	60	47	66	37
Injuries by Animals.....	71	85	50	44	45	31
Starvation.....		1	2			1
Excessive Cold.....	17	13	11	4	14	7
Effects of Heat.....	25	82	18	96	64	10
Lightning.....	23	21	15	31	18	13
Electricity (Lightning Excepted).....	32	21	38	40	31	23
Homicides by Firearms.....	79	92	86	108	123	107
Homicides by Cutting or Piercing Instruments.....	12	12	14	15	19	15
Homicides by other Means.....	30	19	31	29	36	27
Fractures (Causes not Specified).....	9	7	3	2	2	2
Other External Violence.....	82	81	105	76	78	100
Total Deaths by External Causes....	2,553	2,659	2,746	3,046	2,748	2,546

EXTERNAL CAUSES.

MONTHS.	1908	1909	1910	1911	1912	1913	1914	1915
January.....	212	198	197	214	185	187	196	194
February.....	172	185	179	180	183	176	187	193
March.....	174	215	263	185	205	269	225	203
April.....	186	197	200	199	196	232	198	203
May.....	242	195	188	267	204	219	228	205
June.....	223	217	243	221	218	325	274	196
July.....	234	228	273	325	267	361	280	266
August.....	251	266	251	278	253	347	270	233
September.....	244	205	241	219	231	256	228	240
October.....	209	220	207	226	225	221	250	185
November.....	196	200	214	226	235	239	220	200
December.....	184	221	234	215	226	214	192	228
Totals.....	2,527	2,543	2,690	2,735	2,638	3,046	2,748	2,546
	1908	1909	1910	1911	1912	1913	1914	1915
Accidents or Undefined...	2,021	2,030	1,902	2,081	2,049	2,453	2,092	1,972
Suicides.....	384	404	386	443	458	441	478	425
Homicides.....	122	109	121	123	131	152	178	149

MONTHLY RECORD OF DEATHS FROM EXTERNAL CAUSES.

(As published in Monthly Bulletin.)

January, 1915.—Suicide, total, 26; males 22, females 4. Means of suicide: poison 8, asphyxia 1, hanging or strangulation 6, drowning 1, firearms 8, cutting or piercing instruments 2.

Accidental or unidentified. Total, 138; males 100, females 38. Food poisoning, 2; other acute poisoning, 2; conflagration, 1; burns (conflagration excepted), 11; absorption of deleterious gases (conflagration excepted), 2; accidental drowning, 4; traumatism by firearms, 9; traumatism by cutting or piercing instruments, 1; traumatism by fall, 46; traumatism in mines, 5; traumatism by machines, 3; railroad accidents and injuries, 31; street car accident and injuries, 6; injuries by other vehicles, 1; other crushing, 1; injuries by animals, 2; excessive cold, 1; electricity (lightning excepted), 1; fractures (causes not specified), 5; other internal violence, 4.

Homicide Total, 18; males 14, females 4. Homicide by firearms, 12; homicide by cutting or piercing instruments, 4; homicide by other means, 2.

February, 1915.—Total deaths, 183; males 131, females 52. Suicide total, 38; males 29, females 9; means of suicide: poisons 17, hanging or strangulation 5, firearms 11, cutting or piercing

instruments 2, other suicide 3. Accidental or undefined total, 138; males 96, females 42. Food poisoning 3, other acute poisonings 5, conflagration 2, burns (conflagration excepted) 12, absorption of deleterious gases (conflagration excepted) 8, accidental drowning 4, traumatism by firearms 5, traumatism by cutting or piercing instruments 1, traumatism by fall 46, traumatism in mines 5, traumatism by machines 1, railroad accidents and injuries 22, street car accidents and injuries 4, automobile accidents and injuries 4, injuries by other vehicles 3, other crushing 5, injuries by animals 2, fractures (cause not specified) 4, other external violence 2. Homicide total, 7; males 6, females 1. Homicide by firearms 6, homicide by cutting or piercing instruments 1.

March, 1915.—Total deaths 191; males 151, females 40. Suicides total, 42; males 35, females 7. Means of suicide, poison 12, asphyxia 2, hanging or strangulation 3, drowning 1, firearms 18, cutting or piercing instruments 4, jumping from high place 1, crushing 1. Accidental or undefined total, 138; males 109, females 29. Poisoning by food 2, other acute poisonings 3, conflagration 14 (of which 13 occurred in the burning of the Delaware County Infirmary), absorption of deleterious gases (conflagration excepted) 2, accidental drowning 2, traumatism by firearms 2, traumatism by cutting or piercing instruments 6, traumatism by falls 32, traumatism in mines 10, traumatism by machine 4, railroad accidents and injuries 21, street car accidents and injuries 5, automobile accidents and injuries 3, injuries by other vehicles 10, other crushings 3, injuries by animals 1, fractures (cause no specified) 1, other external violence 3. Homicide total, 11; males 7, females 4. By firearms 6, other means 5.

April, 1915.—Total deaths, 190; males 137, females 53. Suicide total, 34; males 27, females 7. Means of suicide, poison, 9, asphyxia 2, hanging 8, drowning 2, firearms 10, cutting or piercing instruments 2, crushing 1. Accidental or undefined total, 152; males 107, females 45. Poisoning by food 1, other acute poisonings 7, conflagration 1, burns (conflagration excepted) 16, accidental drowning 16, traumatism by firearms 3, traumatism by machines 3, railroad accidents and injuries 21, street car accidents and injuries 3, automobile accidents and injuries 8, injuries by other vehicles 8, other crushing 4, injuries by animals 4, lightning 2, electricity (lightning excepted) 1, fractures (cause not specified) 2, other external violence 6. Homicide total, 4; males 3, females 1. Homicide by firearms 3, cutting or piercing instruments 1.

May, 1915.—Total deaths, 191; males 148, females 43. Suicide total, 46; males 35, females 11. Means of suicides, poison 18, asphyxia 1, hanging or strangulation 8, drowning 2, firearms 14, cutting or piercing instruments 1, crushing 2. Accidental or undefined total, 136; males 106, females 30. Acute poisonings 2, conflagration 4, burns (conflagration excepted) 11, absorption of deleterious gases (conflagration excepted) 6, accidental drowning 4, traumatism by firearms 6, traumatism by cutting or piercing instruments 3, traumatism by fall 29, traumatism in mines 4, traumatism by machines 2, railroad accidents and injuries 27, street car accidents and injuries 3, automobile accidents and injuries 9, motorcycles 3, injuries by other vehicles 11, other crushing 3, injuries by animals 1, electricity (lightning excepted) 1, fractures (cause not specified) 4, other external violence 3. Homicide total, 9; males 7, females 2. Homicide by firearms 8, homicide by other means 1.

June, 1915.—Total deaths, 152; males 117, females 35. Poisoning by food 2, acute poisonings 5, conflagration 1, burns (conflagration excepted) 3, accidental drowning 17, traumatism by firearms 2, traumatism by cutting and piercing instruments 3, traumatism by falls 27, traumatism in mines 2, traumatism by machines 4, railroad accidents and injuries 30, street car accidents and injuries 3, automobile accidents and injuries 12, bicycle accident and injury 1, motorcycle accident and injury 1, injuries by other vehicles 6, other crushing 2, injuries by animals 1, lightning 3, electricity (lightning excepted) 3, fractures (cause not specified) 3, other external violence 14. Homicide total 10; males 8, females 2. Homicide by firearms 6, cutting or piercing instruments 1, other means 3.

July, 1915.—Total deaths, 250; males 199, females 51. Suicide total, 37; males 30, females 7. Means of suicide: poison 13, asphyxia 1, hanging or strangulation 2, drowning 1, firearms 14, cutting or piercing instruments 2, jumping from high places 1, crushing 2, other suicides 1. Accidental or undefined total, 198; males 159, females 39. Food poisoning 2, other acute poisonings 2, conflagrations 5 (of which five occurred in Indianapolis), burns (conflagrations excepted) 10, absorption of deleterious gases (conflagration excepted) 4, accidental drowning 39, traumatism by firearms 7, by cutting or piercing instruments 3, by fall 30, in mines 2, by machines 2, railroad accidents and injuries 26, street car 9, automobiles 15, motorcycles 1, other vehicles 6, other crushing 6, injuries by animals 2, effects of heat 4, lightning

4, electricity 6, fractures (cause no specified) 1, other external violence 12. Homicide total 15; males 10, females 5. Homicide by firearms 8, by cutting or piercing instruments 3, other means 4.

August, 1915.—Total deaths, 221; males 159, females 62. Suicide total, 38; males 27, females 11. Means of suicide: poison 15, asphyxia 3, hanging 3, drowning 4, firearms 11, cutting or piercing instruments 1, crushing 1. Accidental or undefined total 165, males 118, females 47. Poisoning by food 3, other acute poisoning 4, burns (conflagrations excepted) 11, absorption of deleterious gases (conflagrations excepted) 6; accidental drowning, 22; traumatism by firearms 4, traumatism by cutting or piercing instruments 1, traumatism by fall 32, traumatism in mines 1, traumatism by machines 1, railroad accidents and injuries 24, street car accidents and injuries 8, automobile accidents and injuries 15, motor-cycle accidents and injuries 1, injuries by other vehicles 6, other crushings 3, injuries by animals 3, electricity (lightning excepted) 2, fractures (cause not specified) 8, other external violence 10. Homicide total 18; males 14, females 4. Homicide by firearms 11, by cutting instruments 4, by other means 3.

September, 1915.—Total deaths, 240; males 190, females 50. Suicide total, 35; males 28, females 7. Means of suicide: poison 13, hanging or strangulation 1, drowning 3, firearms 9, cutting or piercing instruments 1, jumping from high places 1, crushing 1. Accidental or undefined total, 189; males 148, females 41. Poisoning by food 3, other acute poisonings 4, burns (conflagrations excepted) 12, accidental drowning 16, traumatism by firearms 7, traumatism by cutting or piercing instruments 1, traumatism by fall 41, traumatism in mines 7, traumatism by machines 10, railroad accidents and injuries 37, street car accidents and injuries 7, automobile accidents and injuries 17, motorcycles accident and injuries 2, injuries by other vehicles 9, other crushing 2, injuries by animals 3, lightning 1, electricity (lightning excepted) 1, fractures (cause not specified) 4, other external violence 5. Homicide total, 16; males 14, females 2. Homicide by firearms 13, other means 3.

October, 1915.—Total deaths, 177; males 131, females 46. Suicide total, 26; males 19, females 7. Means of suicide, poison 9, hanging or strangulation 4, drowning 2, firearms 9, cutting or piercing instruments 1, other suicides 1. Accidental or undefined total, 139; males 103, females 36. Poisoning by food 3, other acute poisonings 3, conflagration 1, burns (conflagration excepted) 15, absorption of deleterious gases (conflagration ex-

cepted) 4, accidental drowning 4, traumatism by firearms 3, traumatism by cutting or piercing instruments 2, traumatism by fall 28, traumatism in mines 2, traumatism by machines 2, railroad accidents and injuries 24, street car accidents and injuries 5, automobile accidents and injuries 17, injuries by other vehicles 5, other crushing 1, injuries by animals 4, electricity (lightning excepted) 5, fractures (cause not specified) 2, other external violence 9. Homicide total, 12; males 9, females 3. Homicide by firearms 8, by cutting or piercing instruments 1, by other means 3.

November, 1915.—Total deaths 191; males 132, females 59. Suicide total, 34; males 23, females 11. Means of suicide poison 9, asphyxia 2, hanging or strangulation 7, drowning 2, firearms 9, cutting or piercing instruments 3, other suicides 2. Accidental or undefined total 146; males 101, females 45. Poisoning by food 2, other acute poisoning 3, conflagration 1, burns (conflagration excepted) 17, absorption of deleterious gases (conflagration excepted) 4, accidental drowning 1, traumatism by firearms 5, traumatism by cutting or piercing instruments 1, traumatism by fall 33, traumatism in mines 6, traumatism in quarries 1, traumatism by machines 3, railroad accidents and injuries 28, street car accidents and injuries 7, automobile accidents and injuries 15, motorcycle accidents and injuries 1, injuries by other vehicles 5, other crushing 1, injuries by animals 4, electricity (lightning excepted) 1, fractures (cause not specified) 5, other external violence 2. Homicide total 11, males 8, females 3. Homicide by firearms 10, by other means 1.

December, 1915.—Total 220; males 160, females. Suicide, total 25; males 13, females 12. Suicide by poison 6, by asphyxia 1, by hanging or strangulation 3, by drowning 1, by firearms 12, by cutting or piercing instruments 1, by jumping from high places 1. Accidental or undefined total, 179; males 133, females 46. Poisoning by food 1, other acute poisoning 1, conflagration 3, burns (conflagration excepted) 19, absorption of deleterious gases (conflagration excepted) 11, accidental drowning 3, traumatism by firearms 13, traumatism by fall 43, traumatism in mines 5, traumatism by machines 6, railroad accidents and injuries 39, street car accidents and injuries 3, automobile accidents and injuries 9, injuries by other vehicles 2, other crushings 3, injuries by animals 2, excessive cold 1, electricity (lightning excepted) 2, fractures (causes not specified) 3, other external causes 10. Homicide Total, 16; males 14, females 2. Homicide by firearms 14, homicide by cutting or piercing instruments 1, homicide by other means 1.

CANCER.

MONTHS.	1908	1909	1910	1911	1912	1913	1914	1915
January.....	117	141	145	176	154	198	172	177
February.....	134	152	133	167	163	185	162	176
March.....	120	145	165	166	180	189	183	203
April.....	162	141	167	151	183	168	202	201
May.....	153	162	162	153	142	204	208	193
June.....	140	149	157	156	178	173	195	202
July.....	171	163	154	169	184	207	194	197
August.....	150	169	165	150	166	204	190	206
September.....	155	160	157	154	146	197	176	200
October.....	171	150	159	163	172	177	170	193
November.....	137	145	152	168	163	168	173	194
December.....	129	151	156	165	186	156	168	172
Totals.....	1,739	1,828	1,872	1,938	2,018	2,226	2,193	2,314

DEATHS FROM CANCER FOR TEN YEARS BY AGES, SEX AND RATE.

Year.	Population	Under 1 Year	1 Year	2 Years	3 Years	4 Years	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49
1906	2,648,549	.....	.....	.....	.....	1	3	2	5	13	14	35	49	92	131
1907	2,714,744	.....	.....	.....	.....	.....	5	1	5	7	8	27	43	102	154
1908	2,730,144	1	1	1	1	.....	3	3	3	9	23	22	70	82	140
1909	2,733,550	4	3	.....	.....	1	6	3	6	10	18	35	70	101	146
1910	2,700,876	.....	2	4	3	.....	4	3	6	10	13	30	66	104	190
1911	2,700,876	1	2	2	1	.....	.....	3	9	10	13	39	68	123	160
1912	2,730,506	.....	1	1	1	1	4	5	4	9	16	44	65	111	134
1913	2,769,710	4	5	1	1	.....	5	4	2	11	24	56	66	111	173
1914	2,796,957	1	2	3	1	.....	4	2	4	9	24	46	77	123	179
1915	2,824,237	.....	3	1	1	.....	7	7	5	12	23	44	75	115	156

DEATHS FROM CANCER FOR TEN YEARS BY AGES, SEX AND RATE—Continued.

Year.	Population	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 95 and Over	Un- known	Total	Rate	Males	Females
1906	2,648,549	164	135	186	171	173	130	95	10	8	1,417	53.5	564	853
1907	2,714,744	152	181	214	212	190	119	106	10	5	1,512	55.7	687	825
1908	2,730,144	189	236	252	240	198	149	105	9	1	1,739	63.6	755	984
1909	2,733,550	217	201	240	251	215	170	120	10	2	1,828	66.8	804	1,024
1910	2,700,876	189	213	254	222	205	180	101	43	1	1,837	68.0	722	1,115
1911	2,700,876	187	231	228	255	253	172	68	64	2	1,919	71.7	775	1,144
1912	2,730,506	200	265	255	305	246	183	107	51	.....	2,018	73.6	797	1,221
1913	2,769,710	228	283	288	306	287	195	119	55	1	2,226	80.3	860	1,366
1914	2,796,957	218	276	275	302	273	203	119	46	1	2,193	78.4	864	1,339
1915	2,824,237	231	283	327	308	328	222	112	55	.....	2,314	81.9	895	1,419

DEATHS FROM CANCER AND MALIGNANT TUMOR FOR YEAR 1915.

Total Number Deaths, and Death Rates per 100,000 Population.

COUNTIES	Total	Male	Female	Rates	COUNTIES	Total	Male	Female	Rates
NORTHERN CO.....	848	352	496	86.3	CENTRAL CO. Cont.....				
Adams.....	26	5	21	118.4	Montgomery.....	33	13	20	108.6
Allen.....	100	47	53	99.1	Morgan.....	13	6	7	60.5
Benton.....	3	2	1	23.6	Owen.....	13	2	11	92.5
Blackford.....	7	4	3	43.4	Parke.....	12	5	7	54.0
Carroll.....	7	4	3	38.9	Putnam.....	21	8	13	102.1
Cass.....	35	15	20	93.3	Randolph.....	18	10	8	81.1
Dekalb.....	34	17	17	134.1	Rush.....	22	11	11	112.8
Elkhart.....	54	15	39	106.0	Shelby.....	20	7	13	72.1
Fulton.....	19	9	10	112.6	Tippecanoe.....	62	26	36	151.8
Grant.....	55	27	28	105.3	Tipton.....	19	7	12	10.8
Howard.....	28	10	18	78.3	Union.....	9	1	8	143.7
Huntington.....	29	16	13	99.0	Vermillion.....	11	1	10	54.1
Jasper.....	3	2	1	22.9	Vigo.....	71	18	53	72.2
Jay.....	26	9	17	103.6	Warren.....	7	3	4	57.2
Kosciusko.....	22	10	12	78.2	Wayne.....	52	14	38	113.9
Lagrange.....	17	4	13	112.3	SOUTHERN COUNTIES	466	184	282	68.8
Lake.....	54	27	27	52.0	Clark.....	19	4	15	62.7
Laporte.....	41	19	22	85.4	Crawford.....	7	3	4	58.0
Marshall.....	16	6	10	66.0	Daviess.....	19	12	7	68.4
Miami.....	31	10	21	102.2	Dearborn.....	18	6	12	82.9
Newton.....	9	2	7	85.5	Dubois.....	13	9	4	65.5
Noble.....	31	14	17	125.8	Floyd.....	23	6	17	75.7
Porter.....	12	6	6	57.6	Gibson.....	18	6	12	59.4
Pulaski.....	11	3	8	82.6	Greene.....	14	6	8	34.8
Starke.....	5	4	1	47.1	Harrison.....	11	2	9	54.3
Steuben.....	18	5	13	124.6	Jackson.....	27	8	19	109.2
St. Joseph.....	73	29	44	77.2	Jefferson.....	24	8	16	117.2
Wabash.....	23	7	16	85.3	Jennings.....	13	5	8	91.3
Wells.....	15	5	10	66.3	Knox.....	28	13	15	67.1
White.....	19	9	10	107.8	Lawrence.....	18	7	11	55.2
Whitley.....	25	10	15	146.4	Martin.....	2	.....	2	15.0
CENTRAL CO.....	1,000	359	641	85.7	Ohio.....	8	3	5	184.8
Bartholomew.....	26	10	16	103.7	Orange.....	14	5	9	80.8
Boone.....	17	8	9	67.8	Perry.....	10	4	6	54.5
Brown.....	2	1	1	25.0	Pike.....	9	3	6	45.7
Clay.....	24	6	18	72.2	Posey.....	13	6	7	59.5
Clinton.....	27	7	20	98.9	Ripley.....	23	13	10	116.4
Decatur.....	12	4	8	63.3	Scott.....	4	3	1	45.8
Delaware.....	33	12	21	82.7	Spencer.....	12	6	6	58.0
Payette.....	15	6	9	101.5	Sullivan.....	21	9	12	59.9
Fountain.....	19	6	13	92.2	Switzerland.....	7	1	6	70.6
Franklin.....	20	5	15	130.5	Vanderburgh.....	68	23	45	83.2
Hamilton.....	22	8	14	81.0	Warrick.....	10	8	2	44.8
Hancock.....	12	6	6	63.0	Washington.....	13	5	8	74.5
Hendricks.....	20	9	11	95.9	URBAN.....	1,124	.....	.....	88.2
Henry.....	17	7	10	55.1	RURAL.....	1,190	.....	.....	76.8
Johnson.....	5	3	2	24.2	STATE.....	2,314	895	1,419	81.9
Madison.....	55	25	30	83.1					
Marion.....	269	96	173	92.7					
Monroe.....	22	8	14	90.0					

DEATHS FROM CANCER BY AGE, SEX, COLOR, AND ORGAN OR PART AFFECTED FOR YEAR 1915.

	1	2	3	4	5-9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 to 94	95 and over	White	Colored	Total	Grand Total	
Cancer of the Buccal Cavity	M.								2		2	3	7	5	8	10	15	16	5	6					77	2	79	93
	F.						1			1		1		1	2	1	2	2	1					13	1	14		
Cancer of the Stomach, Liver	M.		1			1			1	5	9	10	21	40	51	79	70	88	46	18	5	3		447	2	449	942	
	F.	1							1	6	10	17	32	49	58	73	83	80	52	24	6	1		491	2	493		
Cancer of the Peritoneum, Intestines, Rectum	M.				1						1	9	4	12	13	15	13	10	11	4				93		93	251	
	F.							2	7	3	7	3	13	14	18	20	17	24	20	8	1	1		156	2	158		
Cancer of the Female Genital Organs	F.	1				1		2	6	16	22	39	39	50	58	39	27	26	17	5	2	1		340	11	351	351	
	M.																1						1			1	227	
Cancer of the Breast	F.									6	16	20	19	26	28	33	28	23	13	8	3	1		222	4	226		
	M.									1	2	1	2	5	9	8	13	10	9	7	5			71	1	72	127	
Cancer of the Skin	F.										2	1	2		2	7	5	10	10	8	2	4	2	55		55		
	M.	2			5	3	4	6	4	4	2	4	9	13	20	27	22	24	30	16	8	3		204	1	205	323	
Cancer of the Other Organs Not Specified	F.					2		2	1	2	2	7	8	14	16	15	12	15	7	7	5	1	2	118		118		

DEATHS IN INDIANA FROM PELAGRA BY COUNTIES FOR PAST FIVE YEARS.

COUNTIES.	1911	1912	1913	1914	1915
Clark.....					1
Dekalb.....					1
Grant.....			1		
Hamilton.....					1
Howard.....	1			1	
Jackson.....			1		
Jefferson.....		2			
Laporte.....	1				
Marion.....			1		
Randolph.....	1				
Steuben.....					1
Tippecanoe.....			1		1
Vanderburgh.....					1
Washington.....					1
Wayne.....				1	
Totals.....	3	2	4	2	7

MONTHLY ANALYSIS OF DISEASE PREVALENCE.

(As published in Monthly Bulletin.)

January, 1915.—Scarlet fever, as in the preceding two months, was reported as the most prevalent infectious disease. The order of prevalence was as follows: Scarlet fever, influenza, tonsillitis, acute bronchitis, diphtheria, lobar pneumonia, bronchial pneumonia, smallpox, chickenpox, pulmonary tuberculosis, typhoid fever, acute rheumatism, measles, whooping cough, other forms of tuberculosis, diarrhea and enteritis, cerebro-spinal fever, intermittent and remittent fever, erysipelas, malaria fever, puerperal fever, cholera morbus, dysentery, rabies in human, rabies in animals, poliomyelitis.

February, 1915.—Influenza is reported as the most prevalent disease. Sixty-four per cent. of observers reported the disease present. The order of prevalence is as follows: Influenza, scarlet fever, tonsillitis, broncho-pneumonia, bronchitis, lobar pneumonia, diphtheria, rheumatism, measles, smallpox, chickenpox, pulmonary tuberculosis, typhoid fever, other forms of tuberculosis, whooping cough, malaria fever, erysipelas, intermittent and remittent fever, diarrhea and enteritis, rabies in human, rabies in animals, cerebro-spinal fever, dysentery, cholera morbus, puerperal fever, poliomyelitis.

March, 1915.—Scarlet fever was reported as the most prevalent disease. The order of prevalence was as follows: Scarlet fever, tonsillitis, influenza, acute bronchitis, lobar pneumonia, acute rheumatism, bronchial pneumonia, smallpox, measles, diphtheria and croup, pulmonary tuberculosis, chickenpox, typhoid fever, whooping cough, erysipelas, diarrhea and enteritis, other forms of tuberculosis, intermittent and remittent fever, malaria fever, dysentery, cerebro-spinal fever, cholera morbus, puerperal fever, rabies in human, poliomyelitis, rabies in animals.

April, 1915.—Measles was reported as the most prevalent infectious disease. The order of prevalence was as follows: Measles, tonsillitis, pulmonary tuberculosis, scarlet fever, acute rheumatism, acute bronchitis, influenza, smallpox, lobar pneumonia, bronchial pneumonia, diphtheria and croup, typhoid fever, chickenpox, whooping cough, malaria fever, other forms of tuberculosis, diarrhea and enteritis, erysipelas, intermittent and remittent fever, dysentery, cerebro-spinal fever, puerperal fever, rabies in human, poliomyelitis, rabies in animals, cholera morbus.

May, 1915.—Pulmonary tuberculosis was reported as the most prevalent infectious disease. The order of prevalence was as follows: Pulmonary tuberculosis, tonsillitis, measles, rheumatism, smallpox, scarlet fever, acute bronchitis, diphtheria and croup, influenza, lobar pneumonia, chickenpox, typhoid fever, bronchial pneumonia, whooping cough, erysipelas, other forms of tuberculosis, intermittent and remittent fever, malaria fever, diarrhea and enteritis, puerperal fever, rabies in human, cerebro-spinal fever, cholera morbus, rabies in animals, poliomyelitis.

June, 1915.—Acute rheumatism was reported as the most prevalent infectious disease. The order of prevalence was as follows: Acute rheumatism, tonsillitis, measles, pulmonary tuberculosis, scarlet fever, smallpox, whooping cough, diarrhea and enteritis, typhoid fever, acute bronchitis, diphtheria and croup, malarial fever, chickenpox, intermittent and remittent fever, other forms of tuberculosis, cholera morbus, influenza, bronchial pneumonia, lobar pneumonia, dysentery.

July, 1915.—Tonsillitis was reported as the most prevalent disease. The order of prevalence is as follows: Tonsillitis, pulmonary tuberculosis, typhoid fever, acute rheumatism, diarrhea and enteritis, scarlet fever, smallpox, cholera morbus, acute bronchitis, diphtheria and croup, dysentery, measles, intermittent and remittent fever, malaria fever, whooping cough, chickenpox,

other forms of tuberculosis, lobar pneumonia, bronchial pneumonia, influenza, puerperal fever, erysipelas, rabies in human, rabies in animals, cerebro-spinal fever, and poliomyelitis.

August, 1915.—Typhoid fever was reported as the most prevalent infectious disease. The order of prevalence was as follows: Typhoid fever, diarrhea and enteritis, pulmonary tuberculosis, tonsillitis, acute rheumatism, scarlet fever, bronchitis, cholera morbus, diphtheria, dysentery, malaria fever, intermittent and remittent fever, measles, other forms of tuberculosis, whooping cough, influenza, smallpox, rabies in human, broncho pneumonia, lobar pneumonia, chickenpox, erysipelas, rabies in animals, puerperal fever, poliomyelitis, cerebro-spinal fever.

September, 1915.—Typhoid fever was reported as the most prevalent and infectious disease. The order of prevalence was as follows: Typhoid fever, pulmonary tuberculosis, tonsillitis, diphtheria and croup, scarlet fever, diarrhea and enteritis, acute rheumatism, acute bronchitis, dysentery, malaria fever, intermittent and remittent fever, whooping cough, cholera morbus, influenza, measles, bronchial pneumonia, smallpox, lobar pneumonia, erysipelas, chickenpox, other forms of tuberculosis.

October, 1915.—Diphtheria was reported as the most prevalent infectious disease. The order of prevalence is as follows: Diphtheria, typhoid fever, scarlet fever, tonsillitis, pulmonary tuberculosis, acute rheumatism, acute bronchitis, diarrhea and enteritis, malaria fever, chickenpox, intermittent and remittent fever, influenza, whooping cough, measles, lobar pneumonia, bronchial pneumonia, dysentery, erysipelas, smallpox, cholera morbus, other forms of tuberculosis, rabies in human, rabies in animals, puerperal fever, poliomyelitis, cerebro-spinal fever.

November, 1915.—Scarlet fever was reported as the most prevalent infectious disease. The order of prevalence is as follows: Scarlet fever, diphtheria, tonsillitis, typhoid fever, acute bronchitis, pulmonary tuberculosis, influenza, acute rheumatism, chickenpox, measles, lobar pneumonia, broncho pneumonia, whooping cough, smallpox, malaria fever, diarrhea and enteritis, intermittent and remittent fever, other forms of tuberculosis, erysipelas, dysentery, puerperal fever, poliomyelitis, rabies in human, rabies in animals, cholera morbus, cerebro-spinal fever.

December, 1915.—Scarlet fever, as in the preceding month, was reported as the most prevalent infectious disease. The order of prevalence is as follows: Scarlet fever, influenza, ton-

sillitis, diphtheria and croup, bronchitis, rheumatism, typhoid fever, lobar pneumonia, chickenpox, measles, whooping cough, smallpox, diarrhea and enteritis, other forms of tuberculosis, erysipelas, puerperal fever, cerebro-spinal fever, malaria fever, intermittent and remittent fever, rabies in human, rabies in animals, cholera morbus, dysentery, poliomyelitis, trachoma.

TABLES
OF
ANNUAL STATISTICAL REPORT
FOR THE YEAR 1915.

TABLE No. 1.

*Deaths in Indiana, During the Year Ending December 31, 1915,
With Rates per 100,000 Estimated Population.*

Classification Number	CAUSES OF DEATH.	Number of Deaths.	Death Rate Per 100,000
I. GENERAL DISEASES.			
1	Typhoid Fever.....	415	14.6
2	Typhus Fever.....		
3	Relapsing Fever.....		
4	Malaria.....	56	1.9
5	Smallpox.....	10	.3
6	Measles.....	69	2.4
7	Scarlet Fever.....	102	3.6
8	Whooping Cough.....	168	5.9
9	Diphtheria and Croup.....	302	10.6
10	Influenza.....	509	18.0
11	Millary Fever.....		
12	Asiatic Cholera.....		
13	Cholera Nostras.....	8	.2
14	Dysentery.....	141	4.9
15	Plague.....		
16	Yellow Fever.....		
17	Leprosy.....		
18	Erysipelas.....	100	3.5
19	Other Epidemic Diseases.....	9	.3
20	Purulent Infection and Septicaemia.....	51	1.6
21	Glanders.....		
22	Anthrax.....	2	.07
23	Rabies.....	1	.03
24	Tetanus.....	27	.9
25	Mycoses.....		
26	Pellagra.....	7	.2
27	Beriberi.....		
28	Tuberculosis of the Lungs.....	3,371	119.3
29	Acute Millary Tuberculosis.....	73	2.5
30	Tuberculosis Meningitis.....	188	6.6
31	Abdominal Tuberculosis.....	209	7.3
32	Pott's Disease.....	29	1.0
33	White Swellings.....	27	.9
34	Tuberculosis of Other Organs.....	68	2.4
35	Disseminated Tuberculosis.....	56	1.9

TABLE No. 1—Continued.

Classification Number.	CAUSES OF DEATH.	Number of Deaths.	Death Rate Per 100,000
36	Rickets	6	.2
37	Syphilis	232	8.2
38	Gonococcus Infection	11	.3
39	Cancer of the Buccal Cavity	93	3.2
40	Cancer of the Stomach and Liver	942	33.3
41	Cancer of the Peritoneum, Intestine and rectum	251	8.8
42	Cancer of the Female Genital Organs	351	11.8
43	Cancer of the Breast	227	8.0
44	Cancer of the Skin	127	4.4
45	Cancer of other Organs or of Organs not Specified	323	11.4
46	Other Tumors (tumors of the female genital organs excepted)	12	.4
47	Acute Articular rheumatism	163	5.7
48	Chronic Rheumatism and Gout	26	.9
49	Scurvy	1	.03
50	Diabetes	503	17.8
51	Exophthalmic Goitre	48	1.6
52	Addison's Disease	9	.3
53	Leuchæmia	58	2.0
54	Anaemia Chlorosis	118	4.1
55	Other General Diseases	27	.9
56	Alcoholism (Acute or Chronic)	91	3.2
57	Chronic Lead Poisonings	4	.1
58	Other Chronic Occupation Poisonings		
59	Other Chronic Poisonings	17	.6
II. DISEASES OF THE NERVOUS SYSTEM AND OF THE ORGANS OF SPECIAL SENSE.			
60	Encephalitis	38	1.3
61a	Simple Meningitis	84	2.9
61b	Cerebro-spinal Meningitis (undefined)	23	.8
61c	Cerebro-spinal Fever	63	2.2
62	Locomotor Ataxia	75	2.6
63a	Acute Anterior Poliomyelitis	16	.5
63b	Other Diseases of the Spinal Cord	161	5.6
64	Cerebral hemorrhage, apoplexy	2,547	90.1
65	Softening of the Brain	68	2.4
66	Paralysis without Specified Cause	270	9.5
67	General Paralysis of the Insane	240	8.4
68	Other Forms of Mental Alienation	59	2.0
69	Epilepsy	150	5.3
70	Convulsion (non-puerperal)	1	.03
71	Convulsion of Infants	27	.9
72	Chorea	6	.2
73	Neuralgia and Neuritis	20	.7
74	Other Diseases of the Nervous System	68	2.4
75	Diseases of the eyes and annexa	1	.03
76	Diseases of the Ears	57	2.0
III. DISEASES OF THE CIRCULATORY SYSTEM.			
77	Pericarditis	38	1.3
78	Acute Endocarditis	118	4.1
79	Organic Diseases of the Heart	4,214	146.0
80	Angina Pectoris	306	10.8
81	Diseases of the Arteries, Atheroma, Aneurysm, etc.	686	24.2
82	Embolism and Thrombosis	100	3.5
83	Diseases of the Veins (varices, hemorrhoids, phlebitis, etc.)	12	.4
84	Diseases of the Lymphatic System (lymphangitis, etc.)	10	.3
85	Hemorrhage, other Diseases of the Circulatory System	12	.4

TABLE No. 1—Continued.

Classification Number	CAUSES OF DEATH.	Number of Deaths	Death Rate Per 100,000
IV. DISEASES OF THE RESPIRATORY SYSTEM.			
86	Diseases of the Nasal Passac.	5	.1
87	Diseases of the Larynx.	31	1.0
88	Diseases of the Thyroid Body.	37	1.3
89	Acute Bronchitis.	185	6.5
90	Chronic Bronchitis.	201	7.1
91	Broncho Pneumonia.	1,187	42.0
92a	Lobar Pneumonia.	1,388	49.1
92b	Pneumonia (undefined).	523	18.5
93	Pleurisy.	63	2.2
94	Pulmonary congestion, Pulmonary Apoplexy.	26	.9
95	Gangrene of the Lung.	5	.1
96	Asthma.	78	2.7
97	Pulmonary Emphysema.	5	.1
98	Other Diseases of the Respiratory system (tuberculosis excepted).	26	.9
V. DISEASES OF THE DIGESTIVE SYSTEM.			
99	Diseases of the Mouth and Annexa.	18	.6
100	Diseases of the Pharynx.	62	2.1
101	Diseases of the Oesophagus.	5	.1
102	Ulcer of the Stomach.	121	4.2
103	Other Diseases of the Stomach (Cancer Excepted).	411	14.5
104	Diarrhoea and Enteritis (under two years).	1,156	40.9
105	Diarrhoea and Enteritis (two years and over).	383	13.5
106	Ankylostomiasis.		
107	Intestinal Parasites.	3	.1
108	Appendicitis and Typhlitis.	307	10.8
109a	Hernia.	81	2.8
109b	Intestinal Obstruction.	262	9.2
110	Other Diseases of the Intestines.	79	2.7
111	Acute Yellow Atrophy of the Liver.	15	.5
112	Hydatid Tumor of the Liver.	1	.03
113	Cirrhosis of the Liver.	390	13.8
114	Biliary Calculi.	109	3.8
115	Other Diseases of the Liver.	162	5.7
116	Diseases of the Spleen.	4	.1
117	Simple Peritonitis (non-puerperal).	61	2.1
118	Other Diseases of the Digestive System (cancer and tuberculosis excepted).	12	.4
VI. NON-VENEREAL DISEASE OF THE GENITO- URINARY SYSTEM AND ANNEXA.			
119	Acute Nephritis.	284	10.0
120	Bright's Disease.	2,503	88.5
121	Chyluria.		
122	Other Diseases of the Kidney and Annexa.	57	2.0
123	Calculi of the Urinary Passages.	14	.4
124	Diseases of the Bladder.	70	2.4
125	Diseases of the Urethra, Urinary Abscess, etc.	12	.4
126	Diseases of the Prostrate.	129	4.5
127	Non-Veneral diseases of the Male Genital Organs.	9	.3
128	Uterine Hemorrhage (Non-puerperal).	2	.07
129	Uterine Tumor (Non-cancerous).	39	1.3
130	Other Diseases of the Uterus.	12	.4
131	Cysts and Other Tumors of the Ovary.	34	1.2
132	Salpingitis and other Diseases of the Female Genital Organs.	58	2.0
133	Non-puerperal Diseases of the Breast (cancer excepted).		

TABLE No. 1—Continued.

Classification Number	CAUSES OF DEATH.	Number of Deaths.	Death Rate Per 100,000
VII. THE PUERPERAL STATE.			
134	Accidents of Pregnancy.....	36	1.2
135	Puerperal Hemorrhage.....	45	1.5
136	Other Accidents of Labor.....	36	1.2
137	Puerperal Septicaemia.....	185	6.5
138	Puerperal Albuminuria and Convulsions.....	78	2.7
139	Puerperal Phlegmasia Alba Dolens, Embolus, Sudden Death	14	.4
140	Following Childbirth (not otherwise defined).....	4	.1
141	Puerperal Diseases of the Breast.....		
VIII. DISEASES OF THE SKIN AND OF THE CELLULAR TISSUE.			
142	Gangrene.....	75	2.6
143	Furuncle.....	11	.3
144	Acute Abscess.....	10	.3
145	Other Diseases of the Skin and Annexa.....	15	.5
IX. DISEASES OF THE BONES AND OF THE ORGANS OF LOCOMOTION.			
146	Diseases of the Bones (Tuberculosis excepted).....	58	2.0
147	Diseases of the Joints (Tuberculosis and Rheumatism excepted).....		
148	Amputation.....		
149	Other Diseases of the Organs of Locomotion.....	4	.1
X. MALFORMATIONS.			
150a	Hydrocephalus.....	37	1.3
150b	Congenital Malformation of the Heart.....	326	11.5
150c	Other Congenital Malformations.....	128	4.5
XI. EARLY INFANCY.			
151a	Premature birth.....	1,175	41.5
151b	Congenital Debility, "Atrophy," "Marasmus," etc.....	199	7.0
152a	Injuries at Birth.....	200	7.0
152b	Other Causes Peculiar to Early Infancy.....	200	7.0
153	Lack of Care.....	4	.1
XII. OLD AGE.			
154	Senility.....	269	9.5
XIII. AFFECTION PRODUCED BY EXTERNAL CAUSES.			
155	Suicide by Poison.....	147	5.2
156	Suicide by Asphyxia.....	13	.4
157	Suicide by Hanging or Strangulation.....	64	2.2
158	Suicide by Drowning.....	26	.9
159	Suicide by Firearms.....	130	4.6
160	Suicide by Cutting or Piercing Instruments.....	23	.8
161	Suicide by Jumping from High Places.....	4	.1
162	Suicide by Crushing.....	9	.03
163	Other Suicides.....	9	.03
164	Poisoning by Food.....	26	.9
165	Other Acute Poisonings.....	45	1.5
166	Conflagration.....	33	1.1
167	Burns (Conflagration excepted).....	152	5.3
168	Absorption of Deleterious Gases (conflagration excepted).....	54	1.9
169	Accidental Drowning.....	148	5.2
170	Traumatism by Firearms.....	72	2.5
171	Traumatism by Cutting or Piercing Instruments.....	21	.7
172	Traumatism by Fall.....	467	16.5

TABLE No. 1—Continued.

Classification Number	CAUSES OF DEATH.	Number of Deaths.	Death Rate Per 100,000.
173a	Traumatism in Mines	55	1.9
173b	Traumatism in Quarries	1	.03
174	Traumatism by Machines	49	1.7
175a	Railroad accidents and Injuries	335	11.8
175b	Street Car Accidents and Injuries	71	2.5
175C	Automobile Accidents and Injuries	125	4.4
175F	Bicycle Accidents and Injuries	1	.03
175G	Motorcycle Accidents and Injuries	9	.3
175d	Injuries by Other Vehicles	84	2.9
175e	Other Crushing	37	1.3
176	Injuries by Animals	31	1.0
177	Starvation	1	.03
178	Excessive Cold	7	.2
179	Effects of Heat	10	.3
180	Lightning	13	.4
181	Electricity (Lightning Excepted)	23	.8
182	Homicide by Firearms	107	3.7
183	Homicide by Cutting or Piercing Instruments	15	.5
184	Homicide by other means	27	.9
185	Fractures (cause not specified)	2	.07
186	Other External Violence	100	3.5
XIX. ILL.—DEFINED DISEASES.			
187	Ill-Defined Disease	1	.03
188	Sudden Death		
189a	Ill-Defined	4	.1
189b	Not Specified or Unknown	22	.7
Total deaths from all causes		35,416	1,253.9

[illegible]

TABLE No. 2—Continued.

	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
62. Locomotor Ataxia.....	10	3	9	4	5	4	10	5	4	8	7	6
63. Other Diseases of the Spinal Cord.....	1	2	2	2	1	2	3	1	2	1	1	1
A. Acute Anterior Poliomyelitis.....	0	0	15	11	12	13	13	16	16	14	13	13
B. Other Diseases of the Spinal Cord.....	233	205	258	223	203	185	178	195	198	181	241	247
64. Cerebral Hemorrhage, Apoplexy.....												
65. Softening of the Brain.....	5	3	8	3	5	6	7	5	9	6	8	3
66. Paralysis Without Specified Cause.....	37	22	30	28	15	22	19	25	23	16	10	23
67. General Paralysis of the Insane.....	10	17	26	22	13	13	22	20	23	19	17	29
68. Other Forms of Mental Alienation.....	4	6	6	9	3	4	4	3	2	8	3	7
69. Epilepsy.....	13	17	14	15	9	17	11	11	11	9	13	10
70. Convulsions (Non-epileptic).....				1								
71. Convulsions of Infants.....	3	5	4	2	5	3	2		1			2
72. Chorea.....			1	1	1			1	1		1	
73. Neuritis and Neuritis.....	4	2	2	2	2	1	2	1	1		2	1
74. Other Diseases of the Nervous System.....	7	5	5	6	5	8	3	1	9	5	8	6
75. Diseases of the Eyes and their Annexa.....												
76. Diseases of the Ears.....	5	12	5	0	3	2	4	2	4	1	5	7
III. DISEASES OF THE CIRCULATORY SYSTEM.	485	514	595	485	479	400	410	362	390	432	433	511
77. Pericarditis.....	4	3	1	3	3	2	3	4	2	2	6	5
78. Acute Endocarditis.....	14	9	12	10	6	4	10	7	8	14	15	9
79. Organic Diseases of the Heart.....	391	397	440	348	343	309	313	271	305	315	322	392
80. Angina Pectoris.....	20	26	37	32	35	14	16	24	18	27	26	30
81. Diseases of the Arteries, Atherosclerosis, Aneurysm, etc.....	49	67	62	55	61	63	55	45	48	64	53	64
82. Embolism and Thrombosis.....	4	9	10	9	11	3	10	7	9	9	10	9
83. Diseases of the Veins (Varices, Hemorrhoids, Phlebitis, etc.).....	1	2	2	1		2	1	1			1	1
84. Diseases of the Lymphatic System (Lymphangitis, etc.).....	1	1	2	3		3	1	2		1		
85. Hemorrhages, Other Diseases of the Circulatory System.....												1
IV. DISEASES OF THE RESPIRATORY SYSTEM.	513	677	664	467	180	180	96	70	125	162	263	413
86. Diseases of the Nasal Fossae.....							1	1	2		2	3
87. Diseases of the Larynx.....		6	6	2	6	1	1		1	3		

88. Diseases of the Thyroid Body.....	9	2	4	5	2	6	3	1	4	1
89. Acute Bronchitis.....	26	38	37	19	5	5	3	6	9	17
90. Chronic Bronchitis.....	20	31	29	19	14	13	11	9	12	16
91. Broncho Pneumonia.....	175	236	239	123	56	30	33	17	37	85
92. Pneumonia.....	194	249	240	192	60	48	20	17	33	62
A. Lobar Pneumonia.....	65	96	87	81	22	13	11	8	16	24
B. Pneumonia (Undefined).....	4	8	10	10	10	5	1	2	3	5
93. Pleurisy.....	4	4	3	4	1	1	1	1	2	3
94. Pulmonary Congestion, Pulmonary Apoplexy.....	10	4	6	8	2	6	2	7	11	3
95. Gangrene of the Lung.....	1	1	1	1	1	1	1	1	1	5
96. Asthma.....	5	3	2	3	2	1	2	1	1	4
97. Pulmonary Emphysema.....	233	240	250	271	241	237	348	445	464	273
98. Other Diseases of the Respiratory System (Tuberculosis excepted).....	3	7	5	4	2	2	6	1	2	2
V. DISEASES OF THE DIGESTIVE SYSTEM.	10	4	7	11	11	11	5	8	15	8
99. Diseases of the Mouth and Annexa.....	33	33	35	30	31	35	27	36	42	40
100. Diseases of the Pharynx.....	10	4	7	11	11	11	5	8	15	8
101. Diseases of the Oesophagus.....	10	4	7	11	11	11	5	8	15	8
102. Ulcer of the Stomach.....	10	4	7	11	11	11	5	8	15	8
103. Other Diseases of the Stomach (Cancer excepted).....	33	33	35	30	31	35	27	36	42	40
104. Diarrhoea and Enteritis (Under 2 Years).....	50	45	54	61	51	51	141	198	220	151
105. Diarrhoea and Enteritis (2 Years and Over).....	22	14	21	27	17	20	38	62	59	49
106. Akylostomiasis.....	1	1	1	1	1	1	1	1	1	1
107. Intestinal Parasites.....	22	22	27	28	24	29	32	30	28	24
108. Appendicitis and Typhlitis.....	2	8	13	11	5	8	4	4	7	5
109. Hernia. Intestinal Obstruction.....	20	28	21	13	14	18	26	30	24	16
A. Hernia.....	11	3	6	11	10	7	6	4	4	6
B. Intestinal Obstruction.....	3	1	2	3	2	1	1	2	2	1
Other Diseases of the Intestines.....	32	44	25	33	34	28	32	40	31	36
110. Acute Yellow Atrophy of the Liver.....	4	11	14	9	8	6	13	7	10	6
111. Hydatid Tumor of the Liver.....	9	15	11	17	12	15	11	18	12	16
112. Cirrhosis of the Liver.....	1	1	1	1	1	1	1	1	1	1
113. Biliary Calculi.....	2	4	6	7	14	5	6	5	1	6
114. Other Diseases of the Liver.....	2	4	6	7	14	5	6	5	1	6
115. Diseases of the Spleen.....	2	4	6	7	14	5	6	5	1	6
116. Simple Peritonitis (Non-puerperal).....	2	4	6	7	14	5	6	5	1	6
117. Other Diseases of the Digestive System (Cancer and Tuberculosis excepted).....	2	1	1	1	1	2	3	3	1	1
VI. NON-VENEREAL DISEASES OF THE GENITO-URINARY SYSTEM AND ANNEXA.	268	285	312	308	270	260	248	227	239	277
119. Acute Nephritis.....	25	23	31	33	19	21	21	22	19	21
120. Bright's Disease.....	212	227	239	232	218	203	186	176	185	213

TABLE No. 2—Continued.

	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
121. Chyluria.....	2	3	5	2	5	7	9	4	3	4	7	6
122. Other Diseases of the Kidneys and Annexa.....	1	2	3			1		1	1	2	2	1
123. Calculi of the Urinary Passages.....												
124. Diseases of the Bladder.....	4	3	9	5	5	9	6	7	8	6	6	2
125. Diseases of the Urethra, Urinary Abscess, etc.....	1	1	1	2	1	2	2			4		1
126. Diseases of the Prostate.....	10	11	14	16	4	10	4	11	12	15	9	13
127. Non-venereal Diseases of the Male Genital Organs.....	2			1	1				1		1	3
128. Uterine Hemorrhage (Non-puerperal).....		2										
129. Uterine Tumor (Non-cancerous).....	1	4	3	3	5	3	10	1	2	3	3	1
130. Other Diseases of the Uterus.....	1	3		2	1		2				1	2
131. Cysts and Tumors of the Ovary.....	1	5	3	6	3	1	2	1		3	3	2
132. Salpingitis and Other Diseases of the Female Genital Organs.....	6	2	4	6	8	3	8	4	5	5	4	3
133. Non-puerperal Diseases of the Breast (Cancer excepted).....												
VII. THE PUERPERAL STATE.												
134. Accidents of Pregnancy.....	36	36	43	36	35	22	25	36	31	30	39	29
135. Puerperal Hemorrhage.....	3	5	2	4	4	2	2	1	4	3	1	2
136. Other Accidents of Labor.....	4	2	8	5	5	2	2	3	3	5	3	4
137. Puerperal Septicæmia.....	3	4		5	3		4	4	3	7	2	2
	16	13	25	17	15	9	11	15	13	11	21	14
138. Puerperal Albuminuria and Convulsions.....	6	7	8	5	8	7	6	7	6	4	8	6
139. Puerperal Phlegmasia, Alba Dolens, Embolus, Sudden Death.....	4					2	1	2	2		3	
140. Following Childbirth (not otherwise defined).....								2			1	1
141. Puerperal Diseases of the Breast.....												
VIII. DISEASES OF THE SKIN AND CELLULAR TISSUE.												
142. Gangrene.....	8	12	15	9	4	11	8	10	10	7	11	6
143. Furuncle.....	4	8	11	7	3	8	5	7	6	4	7	5
144. Acute Abscess.....	2	3	2	1		1	1		1			
145. Other Diseases of the Skin and Annexa.....	2	1	1	1		1	2	2	3	2	3	1

IX. DISEASES OF THE BONES AND ORGANS OF LOCOMOTION

146. Diseases of the Bones (Tuberculosis excepted)	5	7	9	8	4	4	5	2	5	6	6	1
147. Diseases of the Joints (Tuberculosis and Rheumatism excepted)	5	7	9	6	4	4	4	2	5	6	5	1
148. Amputations												
149. Other Diseases of the Organs of Locomotion				2				1			1	

X. MALFORMATIONS.

150. Congenital Malformation (Stillbirth not included)	35	62	46	48	48	30	36	30	36	40	34	46
A. Hydrocephalus	2	11	1	2	3	3	3	1	1	2	6	2
B. Congenital Malformation of the Heart	27	37	31	30	35	22	22	22	24	26	18	32
C. Other Congenital Malformations	6	14	14	16	10	5	11	7	11	12	10	12

XI. EARLY HISTORY.

151. Congenital Debility, Icterus, and Scurvy.	156	143	187	152	148	145	135	136	145	135	133	163
A. Premature Birth	97	71	121	97	102	100	90	101	106	93	93	104
B. Congenital Debility, Atrophy, Marasmus, etc.	13	25	21	20	14	16	11	14	10	14	16	25
Other Causes Peculiar to Early Infancy												

152. A. Injuries at Birth	22	22	21	16	10	16	15	14	13	15	15	21
B. Other Causes Peculiar to Early Infancy	24	25	24	18	22	12	19	6	16	13	9	12
153. Lack of Care				1		1		1				1

XII. OLD AGE.

154. Senility	35	29	28	22	27	13	20	15	17	18	20	25
	35	29	28	22	27	13	20	15	17	18	20	25

XIII. AFFECTIONS PRODUCED BY EXTERNAL CAUSES.

155. Suicide by Poison	8	16	13	9	18	13	13	20	11	10	9	7
156. Suicide by Asphyxia	1		1	2	1	2	1	2		2	2	1
157. Suicide by Hanging or Strangulation	6	5	3	8	8	4	2	4	10	4	7	3
158. Suicide by Drowning	2		3	2	4	3	2	4	1	2	2	1
159. Suicide by Firearms	8	11	18	10	12	6	13	10	10	10	9	13

160. Suicide by Cutting or Piercing Instruments												
161. Suicide by Jumping from High Places	4	2	4	2	1		2	1	1	1	4	1
162. Suicide by Crushing			1	1	2	1	1	1	1		1	1
163. Other Suicides	3	3										
164. Poisoning by Food	3	3	1	1	2	2	2	3	3	3	2	2

165. Other Acute Poisonings												
166. Confagration	2	7	3	7	2	5	2	5	4	3	4	1
167. Burns (Confagration excepted)	1	2	14	4	1	6				1	1	3
168. Absorption of Deleterious Gases (Confagration excepted)	10	13	13	18	11	7	8	11	12	15	18	16
	3	9	4	3	6	3	4	5		7	5	5

TABLE No. 2—Continued.

	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
169. Accidental Drowning.....	4	4	3	16	5	22	43	23	16	5	2	5
170. Traumatism by Firearms.....	9	6	2	3	7	7	6	4	7	5	6	15
171. Traumatism by Cutting or Piercing Instruments.....	1	1	2	.....	3	2	2	1	1	3	1	.....
172. Traumatism by Fall.....	50	53	36	45	32	29	31	39	44	30	33	45
173. Traumatism in Mines and Quarries.....	5	6	11	2	4	2	2	2	7	2	6	6
A. Traumatism in Mines.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
B. Traumatism in Quarries.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
174. Traumatism by Machines.....	2	1	3	4	2	6	6	1	10	4	1	7
175. Traumatism by Other Crushing.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A. Railroad Accidents and Injuries.....	33	23	21	24	39	31	27	24	34	23	28	38
B. Street Car Accidents and Injuries.....	7	4	7	4	3	12	10	8	5	9	7	8
C. Automobile Accidents and Injuries.....	.....	4	2	11	9	11	15	15	13	16	15	9
D. Bicycles.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
176. Motorcycles.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
177. Injuries by Other Vehicles.....	2	2	12	6	3	1	1	1	2	.....	1	.....
178. Landslide and Other Crushing.....	2	5	5	3	14	6	10	7	9	4	9	3
179. Injuries by Animals.....	2	2	1	4	3	1	5	4	2	2	2	3
177. Starvation.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
178. Excessive Cold.....	5	.....	.....	1	.....	.....	7	2	1	.....	.....	1
179. Effects of Heat.....	.....	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	.....
180. Lightning.....	1	.....	.....	2	.....	3	6	7	1	.....	.....	.....
181. Electricity (Lightning excepted).....	.....	.....	.....	.....	1	3	6	2	3	.....	1	2
182. Homicide by Firearms.....	10	6	7	3	8	7	9	14	15	7	8	13
183. Homicide by Cutting or Piercing Instruments.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
184. Homicide by Other Means.....	2	2	.....	1	1	1	3	3	3	1	1	1
185. Fractures (causes not specified).....	4	.....	4	1	1	2	4	4	2	3	2	1
186. Other External Violence.....	6	3	5	8	9	11	14	9	7	7	3	18
XIV. ILL DEFINED DISEASES												
187. Ill Defined Organic Disease.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
188. Sudden Death.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
189. Ill Defined or Non-specified.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
A. Ill Defined.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
B. Not Specified or Unknown.....	.....	.....	2	4	1	1	2	3	1	2	1	1

TABLE No. 2—Continued.

	Un- der 1	1	2	3	4	Un- der 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74
IV. DISEASES OF THE RESPIRATORY SYSTEM.																				
86. Diseases of the Nasal Fossae.....	914	205	87	49	23	1278	88	35	62	60	71	75	93	92	113	136	148	182	224	318
87. Diseases of the Larynx.....	2					2	1								1					
88. Diseases of the Thyroid Body.....	8		1	2	1	12	5				2	1	2		1					
89. Acute Bronchitis.....	2	1			1	4	1	1	2	1	1	3	3	2	3	2	5	1	3	1
90. Chronic Bronchitis.....	94	19	3	2	1	119	3	1				1	1		2	7	5	13	18	38
91. Broncho Pneumonia.....	1					1	1		2											
92. Pneumonia.....	505	116	44	22	7	694	24	4	10	9	7	7	9	13	15	17	19	24	40	67
93. Lobar Pneumonia.....	162	40	23	10	10	245	35	21	35	31	49	42	59	51	67	76	95	103	102	141
94. Pleurisy.....	134	26	16	6	3	185	12	5	9	9	8	13	9	14	14	21	14	25	37	39
95. Pulmonary Congestion, Pulmonary Apoplexy.....	1	1		1		3	4		4	5	3	4	5	3	3	4	3	3	7	5
96. Gangrene of the Lung.....	4					4					1	1			2		1	2		4
97. Asthma.....	95														1	1			2	
98. Pulmonary Emphysema.....	1	2				3	1	1	1				2	4	3	5	8	7	6	13
99. Other Diseases of the Respiratory System (Tuberculosis excepted).....						1											1		1	1
V. DISEASES OF THE DIGESTIVE SYSTEM.																				
100. Diseases of the Mouth and Anæra.....	1060	340	95	46	25	1596	77	57	54	67	79	95	92	100	110	88	155	176	196	221
101. Diseases of the Pharynx.....	5					7														
102. Diseases of the Oesophagus.....	5	3	1	3	1	13	15	5	5	2	4		1	2	2	2	1	2	2	3
103. Ulcer of the Stomach.....	1					1														
104. Other Diseases of the Stomach (Cancer excepted).....	162	7	12	3	4	188	11	1	1	3	7	3	7	8	9	6	11	12	9	23
105. Diarrhoea and Enteritis (Under 2 Years).....																				
106. Diarrhoea and Enteritis (2 Years and Over).....	839	317	74	25	12	1115	11	6	1	6	4	7	7	10	9	12	14	18	27	45
107. Ankylostomiasis.....																				
108. Intestinal Parasites.....																				
109. Appendicitis and Typhilitis.....	1	2		7	1	11	22	35	37	31	25	38	19	13	19	19	14	7	6	5
110. Hernia, Intestinal Obstruction.....																				
111. A. Hernia.....	3					3	1													
112. B. Intestinal Obstruction.....	39	8	4	4	5	60	9	4	6	6	13	8	7	15	9	11	16	17	15	21
113. Other Diseases of the Intestines.....	4	1	2			7	3	2		2	3	4	4	4	3	2	2	1	7	6

XIII. AFFECTIONS PRODUCED BY EXTERNAL CAUSES.

	53	51	39	39	30	217	100	99	143	181	172	167	171	180	165	156	146	129	98	107
155. Suicide by Poison.....							1		9	16	12	17	16	18	12	9	15	5	9	4
156. Suicide by Asphyxia.....											2	1	2	1	2	2	1	2	1	
157. Suicide by Hanging or Strangulation.....								1		2	2	4	3	7	4	6	0	8	6	5
158. Suicide by Drowning.....								1		1	1	3	2	2	3	3	2	3	3	2
159. Suicide by Firearms.....									5	15	7	12	7	9	17	15	22	8	7	2
160. Suicide by Cutting or Piercing Instruments.....										1		1	1	4	3	5	4	2		2
161. Suicide by Jumping from High Places.....												1	1	2	1		2			
162. Suicide by Crushing.....											1	2	1				1	1	1	
163. Other Suicides.....								1	2		1	1	1		2	3		3		
164. Poisoning by Food.....	3	4	2		1	10	2													
165. Other Acute Poisonings.....	1	5	7	5	1	19	1		2	2	3	1	3	2	1	4	1	2	1	3
166. Conflagration.....						1	2	1		2	2	4	1	10	3	2	2	5	1	5
167. Burns (Conflagration excepted).....	7	13	9	20	10	64	10	9	6	9	8	2	3	10	4	2	3	5	4	4
168. Absorption of Deleterious Gases (conflagration excepted).....	24					24	2		2	1	2	3	5	1	4	3		1	1	3
169. Accidental Drowning.....	1	6	5	1		13	14	31	26	17	7	7	5	10	6	3	4	1	1	2
170. Traumatism by Firearms.....	1	1		2	1	5	6	6	10	10	5	2	7	3	4	8	2	2	1	1
171. Traumatism by Cutting or Piercing Instruments.....				1	2	3		3	2	2	2	1	1	12	13	15	13	30	25	45
172. Traumatism by Fall.....	3	8	7	1	3	22	14	10	4	8	12	5	12	13	13	15	13	2	1	
173. Traumatism in Mines and Quarries.....												8	8	6	8	2	2	2		
A. Traumatism in Mines.....									3	7	8									
B. Traumatism in Quarries.....																				
174. Traumatism by Machines.....									3	6	10	8	3	5	4	3	2		1	
175. Traumatism by Other Crushing.....																				
A. Railroad Accidents and Injuries.....			2	1		3	7	8	29	28	43	32	36	30	32	16	15	12	16	11
B. Street Car Accidents and Injuries.....					2	2	2	2	9	3	5	5	3	4	8	0	10	11	2	
C. Automobile Accidents and Injuries.....			2	1	3	6	17	5	7	8	8	11	10	12	4	9	11	4	4	3
F. Bicycles.....													1							
G. Motorcycles.....			1		1	2			2	2	1	8	5	8	5	4	5	1	5	6
D. Injuries by Other Vehicles.....	1		1	3	2	7	6	4	1	1	3	8	5	3	2	4	5	9	2	2
E. Landslide and Other Crushing.....			1			1	2	1	4	5	2	4	3	2	3	1	2	4	2	2
176. Injuries by Animals.....				1		1	7	3			5	5		2	3	1	2			
177. Starvation.....																				
178. Excessive Cold.....										1					2	1	1	1		1
179. Effects of Heat.....	2					2					1				1	1	1	1	1	
180. Lightning.....								1	1	3	1	1	1		2	2	4			
181. Electricity (Lightning excepted).....									2	4	5	1	2	3	2	4		3	2	1
182. Homicide by Firearms.....		1				1	1	1	9	15	12	14	14	15	6	12	4	1	1	1

TABLE No. 2—Continued.

	Under 1	1	2	3	4	Under 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	
Homicide by Cutting or Piercing Instruments																					
182. If outside by Other Means	1					1	1	1		3	1	3	1	2		2		2			
184. If outside by Other Means										2	1	6	5	2	1	1	1	1	1		
185. Fractures (causes not specified)																					
186. Other External Violence	15	6	2	3	3	29	5	7	4	4	7	4	8	6	4	5	4	5	2	3	
XIV. ILL DEFINED DISEASES																					
	18	2				20						1			1	1			1		
III Defined Organic Disease																					
187. Sudden Death															1						
188. Ill Defined or Non-specified																					
189. A. Ill Defined	3	1				4															
B. Not Specified or Unknown	15	1				16	15	1				1			1		1		1		

TABLE No. 2—Continued.

	75-79	80-84	85-90	90-95	95 and over	White	Col- ored	In- dians	Amer- ican	For- eign	Not Re- port- ed	Single	Mar- ried	Wid- owed or Di- vorced	Not Re- port- ed	Total	Non- Resi- dents
26. Pellagra.....						7			7			1	6			7	
27. Beriberi.....																	
28. Tuberculosis of the Lungs.....	78	26	14			3,123	247	1	3,144	222	5	1,156	1,734	475	6	3,371	109
29. Acute Miliary Tuberculosis.....						61	12		69	4		41	27	5		73	5
30. Tuberculous Meningitis.....	1					186	2		185	2	1	163	20	4	1	188	1
31. Abdominal Tuberculosis.....	4	6			2	187	22		198	11		77	94	37	1	209	5
32. Pott's Disease.....	1					27	2		29			16	9	3	1	29	1
33. White Swellings.....						26	1		26	1		16	9	2		37	1
34. Tuberculosis of Other Organs.....	5					63	5		65	3		29	31	8		68	2
35. Disseminated Tuberculosis.....						51	5		54	2		28	21	7		56	4
36. Rickets.....						6			6			6				6	
37. Syphilis.....	3	2	1			206	26		218	11	3	116	73	39	4	232	16
38. Gonococcus Infection.....	11					11	1		11			4	5	5	1	11	1
39. Cancer of the Buccal Cavity.....	7	7				90	3		88	5		6	64	23		93	4
40. Cancer of the Stomach, Liver.....	98	42	11	4		938	4		820	121	1	52	566	204		942	39
41. Cancer of the Peritoneum, Intestines, Rectum.....	31	12	1	1		249	2		230	21		20	149	81	1	251	24
42. Cancer of the Female Genital Organs.....	17	5	2	1		340	11		334	17		24	212	114	1	351	20
43. Cancer of the Breast.....	13	8	3	1		223	4		214	13		20	135	71	1	127	8
44. Cancer of the Skin.....	19	15	7	4	2	126	1		113	12	2	4	70	52	1	127	3
45. Cancer of Other Organs and Organs not Specified.....	37	23	13	3	2	322	1		285	37	1	40	189	94		323	22
46. Other Tumors (Tumors of the Female Genital Organs excepted).....			1			12			9	3		3	6	3		12	
47. Acute Articular Rheumatism.....	9	8	2	1		156	7		155	8		68	63	32		163	1
48. Chronic Rheumatism and Gout.....	3	1	1			25	1		24	2		4	16	6		26	
49. Scurvy.....						1			1					1		1	
50. Diabetes.....	36	11	1	1		496	7		458	45		87	318	98		503	13
51. Exophthalmic Goitre.....						48			47	1		8	31	9		48	4
52. Addison's Disease.....						8			8				8	1		9	
53. Leucæmia.....	1	1				57	1		55	3		18	31	9		58	5
54. Anæmia, Chlorosis.....	6	4	1			118			110	8		19	72	27		118	4
55. Other General Diseases.....	2	1				27			28	1		23		4		27	

56.	Alcoholism (Acute or Chronic).....	1	1	1	1	88	3	78	11	2	39	37	14	1	91	3	
57.	Chronic Lead Poisoning.....					4		4			1	1	2		4		
58.	Other Chronic Occupation Poisonings.....					16	1	16	1		1	9	7		17		
59.	Other Chronic Poisonings.....	1		1													
II DISEASES OF THE NERVOUS SYSTEM AND OF THE ORGANS OF SPECIAL SENSES.																	
60.	Encephalitis.....	507	368	165	47	7	1	3,876	98	3,505	365	14	715	1,924	1,324	11	3,974
61.	Meningitis.....	1						33	5	38			23	11	3	1	38
	A. Simple Meningitis.....							80	4	77	7		55	23	5	1	84
	B. Cerebro-spinal Meningitis (Undefined).....	2						23		23	1		21	1	1		23
	C. Cerebro-spinal Fever.....							59	4	63			51	10	1	1	63
62.	Locomotor Ataxia.....	5			1			75		68	4	3	13	49	13		75
63.	Other Diseases of the Spinal Cord.....							16		16			16				16
	A. Acute Anterior Poliomyelitis.....	17	14	6	1			158	3	147	14		30	84	47		161
	B. Other Diseases of the Spinal Cord.....	384	281	127	35	6		2,488	59	2,266	274	7	271	1,281	993	2	2,647
64.	Cerebral Hemorrhage, Apoplexy.....																
65.	Softening of the Brain.....	21	11	2	1			68		61	7		4	45	19		68
66.	Paralysis Without Specified Cause.....	43	41	17	7	1		262	8	246	24		25	120	124	1	270
67.	General Paralysis of the Insane.....	17	12	8	1			234	6	221	17	2	28	152	60		240
68.	Other Forms of Mental Alienation.....	2	2	3			1	58	1	53	5	1	12	33	13	1	59
69.	Epilepsy.....	1	4					147	3	142	4	4	81	47	18	4	150
70.	Convulsions (Non-epileptic).....							1		1			1				1
71.	Convulsions of Infants.....							25	2	27			27				27
72.	Chorea.....	1		1				6		6			1	4	6		6
73.	Neuritis and Neuritis.....	4	1	1				20		20			4	10	6		20
74.	Other Diseases of the Nervous System.....	8	1					67	1	62	6		21	35	12		68
75.	Diseases of the Eyes and their Annexa.....							1			1			1			1
76.	Diseases of the Ears.....	1	1			1		55	2	55	2		31	22	4		57
III. DISEASES OF THE CIRCULATORY SYSTEM.																	
77.	Pericarditis.....	786	653	280	85	24	6	5,283	213	4,772	717	7	689	2,686	2,104	17	5,496
78.	Acute Endocarditis.....	1		3	1			35	3	35	3		11	17	10		38
79.	Organic Diseases of the Heart.....	582	472	164	50	14	6	116	2	106	12		43	57	18		118
80.	Angina Pectoris.....	41	22	10				4,028	186	3,653	526	5	533	2,078	1,589	14	4,214
81.	Diseases of the Arteries, Atherosclerosis, Aneurysm, etc.....	139	146	96	29	10		281	6	281	25		21	190	94	1	306
								670	16	554	131	1	55	276	353	2	686
82.	Embolism and Thrombosis.....	16	10	6	3			100		81	18	1	10	55	35		100
83.	Diseases of the Veins (Varices, Hemorrhoids, Phlebitis, etc.).....							12		10	2		1	9	2		12
84.	Diseases of the Lymphatic System (Lymphangitis, etc.).....							10		10			10				10
85.	Hemorrhage; Other Diseases of the Circulatory System.....	3						12		12			4		3		12

TABLE No. 2—Continued.

	75-79	80-84	85-89	90-94	95 and over	White Unknown	Colored	Indians	American	Foreign	Not Reported	Single Married	Widowed or Divorced	Not Reported	Total	Non-Residents	
IV. DISEASES OF THE RESPIRATORY SYSTEM.																	
86. Diseases of the Nasal Fossae.....	320	253	144	52	16	3,631	128	1	3,398	356	6	1,720	1,142	882	7	3,760	.....
87. Diseases of the Larynx.....	2	1	.....	.....	.....	5	.....	.....	5	.....	.....	3	1	1	.....	5	1
88. Diseases of the Thyroid Body.....	3	1	.....	.....	.....	31	.....	.....	30	1	.....	20	8	3	.....	31	.....
89. Acute Bronchitis.....	10	16	9	9	3	35	2	.....	32	5	.....	10	21	6	.....	37	13
90. Chronic Bronchitis.....	38	38	24	10	1	180	5	.....	166	19	.....	130	23	32	.....	185	.....
91. Broncho Pneumonia.....	89	75	45	14	5	194	7	.....	158	42	1	17	89	94	1	201	2
92. Pneumonia.....	112	72	35	12	5	1,160	27	.....	1,100	87	.....	769	203	213	2	1,187	22
A. Lobar Pneumonia.....	44	38	22	4	1	1,318	70	.....	1,244	141	3	485	551	350	2	1,388	34
B. Pneumonia (Undefined).....	5	1	.....	.....	.....	511	12	.....	492	31	.....	252	160	111	.....	523	10
93. Pleurisy.....	.....	.....	.....	.....	.....	62	1	.....	61	2	.....	19	30	14	.....	63	8
94. Pulmonary Congestion, Pulmonary Apoplexy.....	4	2	4	1	.....	26	.....	.....	21	5	.....	5	7	14	.....	26	3
95. Gangrene of the Lung.....	1	.....	.....	.....	.....	5	.....	.....	4	1	.....	.....	5	.....	.....	5	.....
96. Asthma.....	10	7	4	2	1	76	1	1	59	19	.....	10	32	36	.....	78	1
97. Pulmonary Emphysema.....	1	.....	.....	.....	.....	5	.....	.....	3	1	1	1	.....	3	.....	5	1
98. Other Diseases of the Respiratory System (Tuberculosis excepted).....	1	.....	1	.....	.....	23	3	.....	23	2	1	8	12	5	1	26	.....
V. DISEASES OF THE DIGESTIVE SYSTEM.																	
99. Diseases of the Mouth and Anæxa.....	175	143	72	24	4	3,570	72	.....	3,465	176	1	1,977	1,093	569	3	3,642	.....
100. Diseases of the Pharynx.....	.....	.....	.....	.....	.....	17	1	.....	17	1	.....	9	8	1	.....	18	1
101. Diseases of the Oesophagus.....	1	2	1	1	.....	61	1	.....	61	1	.....	38	17	7	.....	62	1
102. Ulcer of the Stomach.....	9	7	3	.....	.....	5	.....	.....	5	.....	.....	3	1	.....	.....	5	.....
103. Other Diseases of the Stomach (Cancer excepted).....	30	26	19	7	1	118	3	.....	111	10	.....	17	76	28	.....	121	5
104. Diarrhoea and Enteritis (Under 2 Years).....	.....	.....	.....	.....	.....	400	11	.....	386	24	1	210	117	82	2	411	4
105. Diarrhoea and Enteritis (2 Years and Over).....	29	44	15	7	.....	1,135	21	.....	1,156	.....	.....	1,156	.....	.....	.....	1,156	4
106. Ankylostomiasis.....	.....	.....	.....	.....	.....	376	7	.....	356	27	.....	169	118	96	1	383	24
107. Intestinal Parasites.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
108. Appendicitis and Typhilitis.....	4	2	.....	.....	.....	3	.....	.....	3	.....	.....	2	1	18	.....	3	65

TABLE No. 2—Continued.

	75-79	80-84	85-89	90-95	95 and over	White	Col- ored	In- dians	Amer- icans	For- eign	Not Re- port- ed	Single	Mar- ried	Wid- owed or Di- vorced	Not Re- port- ed	Total	Non- Res- idents
VIII. DISEASES OF THE SKIN AND CELLULAR TISSUE																	
142. Gangrene.....	16	12	17	6	2	108	3	.....	100	11	.....	22	36	53	.....	111	.....
143. Furuncle.....	16	8	17	5	2	73	2	.....	66	7	.....	6	24	45	.....	75	7
144. Acute Abscess.....	1	1	.....	.....	.....	11	.....	.....	11	.....	.....	4	4	3	.....	11	.....
145. Other Diseases of the Skin and Annura.....	2	1	.....	1	.....	0	1	.....	8	2	.....	2	5	3	.....	10	.....
						15	.....	.....	14	1	.....	10	3	2	.....	15	.....
IX. DISEASES OF THE BONES AND ORGANS OF LOCOMOTION.																	
146. Diseases of the Bones (Tuberculosis excepted).....	1	1	1	.....	.....	62	.....	.....	56	5	1	26	31	5	.....	62	.....
147. Diseases of the Joints (Tuberculosis and Rheumatism excepted).....	1	.....	1	.....	.....	58	.....	.....	52	5	1	25	30	3	.....	58	7
148. Amputations.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
149. Other Diseases of the Organs of Locomotion.....	1	.....	.....	.....	.....	4	.....	.....	4	.....	.....	1	1	2	.....	4	.....
X. MALFORMATIONS:																	
150. Congenital Malformation (Stillbirths not included).....	.....	.....	.....	.....	.....	489	2	.....	491	.....	.....	491	.....	.....	.....	491	.....
A. Hydrocephalus.....	.....	.....	.....	.....	.....	37	.....	.....	37	.....	.....	37	.....	.....	.....	37	.....
B. Congenital Malformation of the Heart.....	.....	.....	.....	.....	.....	324	2	.....	326	.....	.....	326	.....	.....	.....	326	.....
C. Other Congenital Malformations.....	.....	.....	.....	.....	.....	128	.....	.....	128	.....	.....	128	.....	.....	.....	128	.....
XI. EARLY HISTORY.																	
151. Congenital Debility, Icterus, and Sclerema.....	.....	.....	.....	.....	.....	1,743	35	.....	1,778	.....	.....	1,778	.....	.....	.....	1,778	.....
A. Premature Birth.....	.....	.....	.....	.....	.....	1,148	27	.....	1,175	.....	.....	1,175	.....	.....	.....	1,175	.....
B. Congenital Debility, Atrophy, Marasmus, etc.	.....	.....	.....	.....	.....	190	3	.....	199	.....	.....	199	.....	.....	.....	199	.....
Other Causes Peculiar to Early Infancy.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
152. Injuries at Birth.....	.....	.....	.....	.....	.....	200	.....	.....	200	.....	.....	200	.....	.....	.....	200	.....
Other Causes Peculiar to Early Infancy.....	.....	.....	.....	.....	.....	196	4	.....	200	.....	.....	200	.....	.....	.....	200	.....
153. Lack of Care.....	.....	.....	.....	.....	.....	3	1	.....	4	.....	.....	4	.....	.....	.....	4	.....
XII. OLD AGE.																	
154. Senility.....	38	77	62	33	15	264	5	.....	220	49	.....	11	65	193	.....	269	.....
	38	77	62	33	15	264	5	.....	220	49	.....	11	65	193	.....	269	20

XIII. AFFECTIONS PRODUCED BY EXTERNAL CAUSES.

155. Suicide by Poison.....	90	113	73	26	4	9	2,460	86	2,233	248	40	969	1,071	450	56	2,546
156. Suicide by Asphyxia.....	1	3	.....	.....	.....	.....	145	2	138	9	36	76	35	35	.....	147
157. Suicide by Hanging or Strangulation.....	.....	.....	.....	.....	.....	.....	13	.....	9	4	1	10	2	2	.....	13
158. Suicide by Drowning.....	1	3	.....	.....	.....	.....	63	1	53	3	3	12	35	14	3	64
159. Suicide by Firearms.....	.....	1	.....	.....	.....	.....	26	.....	22	4	.....	3	19	4	.....	26
160. Suicide by Cutting or Piercing Instruments.....	.....	2	1	.....	.....	.....	126	4	116	10	4	23	78	25	4	130
161. Suicide by Jumping from High Places.....	3	.....	.....	.....	.....	.....	23	.....	19	4	.....	5	16	1	1	23
162. Suicide by Crushing.....	.....	1	.....	.....	.....	.....	4	.....	4	2	1	1	.....	3	.....	4
163. Other Suicides.....	.....	.....	1	.....	.....	.....	9	.....	2	1	4	.....	4	1	4	9
164. Poisoning by Food.....	2	.....	.....	.....	.....	.....	26	.....	25	1	.....	16	8	2	.....	26
165. Other Acute Poisonings.....	.....	.....	.....	.....	.....	.....	45	.....	41	4	.....	28	11	6	.....	45
166. Congestion.....	3	1	.....	.....	.....	.....	32	.....	25	6	2	18	6	7	2	33
167. Burns (Congestion excepted).....	3	4	2	1	.....	.....	143	9	139	12	1	100	33	19	.....	152
168. Absorption of Solerious Gases (conflagration excepted).....	.....	1	.....	.....	.....	.....	52	2	49	5	.....	34	15	5	.....	54
169. Accidental Drowning.....	.....	1	.....	.....	.....	.....	138	10	129	16	3	112	23	5	6	148
170. Traumatism by Firearms.....	.....	.....	.....	.....	.....	.....	68	4	66	6	.....	38	30	3	1	72
171. Traumatism by Cutting or Piercing Instruments.....	.....	1	.....	.....	.....	.....	20	1	21	.....	.....	9	9	2	.....	21
172. Traumatism by Fall.....	53	70	76	23	4	.....	458	9	413	53	1	96	154	212	5	467
173. Traumatism in Mines and Quarries.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
A. Traumatism in Mines.....	.....	.....	.....	.....	.....	.....	54	1	45	10	.....	15	37	3	.....	55
B. Traumatism in Quarries.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	1	1	.....	.....	.....	1
174. Traumatism by Machines.....	1	.....	.....	.....	.....	.....	49	.....	40	9	.....	21	26	2	.....	49
175. Traumatism by Other Crushing.....	.....	.....	.....	.....	.....	.....	.....	.....	269	45	21	120	143	38	25	335
A. Railroad Accidents and Injuries.....	8	7	.....	.....	.....	.....	327	8	60	2	.....	25	35	11	.....	71
B. Street Car Accidents and Injuries.....	2	1	.....	.....	.....	.....	70	1	113	11	1	52	64	8	1	125
C. Automobile Accidents and Injuries.....	1	2	1	.....	.....	.....	122	3	1	.....	.....	.....	.....	.....	.....	1
F. Bicycles.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....
G. Motorcycles.....	1	.....	.....	.....	.....	.....	9	.....	9	.....	.....	5	3	1	.....	9
D. Injuries by Other Vehicles.....	4	2	1	.....	.....	.....	84	.....	70	5	.....	26	47	10	1	84
E. Landslide and Other Crushing.....	.....	.....	.....	.....	.....	.....	37	.....	31	6	.....	13	23	1	.....	37
176. Injuries by Animals.....	1	.....	.....	.....	.....	.....	31	.....	30	1	.....	14	13	4	.....	31
177. Starvation.....	1	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	1	.....	1
178. Excessive Cold.....	1	1	.....	.....	.....	.....	6	1	7	.....	.....	2	3	2	.....	7
179. Effects of Heat.....	.....	1	.....	.....	.....	.....	9	.....	8	2	.....	3	7	.....	.....	10
180. Lightning.....	1	.....	1	.....	.....	.....	13	.....	13	.....	.....	6	6	1	.....	13
181. Electricity (Lightning excepted).....	.....	.....	.....	.....	.....	.....	23	.....	21	2	.....	7	16	.....	.....	23
182. Homicide by Firearms.....	.....	.....	.....	.....	.....	.....	87	20	101	6	.....	44	53	7	3	107

TABLE No. 2—Continued.

	75-79	80-84	85-89	90-94	95 and over	Un- known	White	Col- ored	In- dian	Amer- ican	For- eign	Not Re- port- ed	Single	Mar- ried	Wid- owed or Divorced	Not Re- port- ed	Total	Non- Resi- dent
183. Homicide by Cutting or Piercing Instruments.....																		
184. Homicide by Other Means.....	1						11	4		12	3		6	8	1		15	
185. Fractures (cause not specified).....	1						25	2		25	2		8	16	3		27	
186. Other External Violence.....	1	2					98	2		96	4		59	32	9		100	5
XIV. ILL DEFINED DISEASES																		
187. Ill Defined Organic Disease.....	1	1		1			27			24	3		19	5	2	1	27	
188. Sudden Death.....							1				1				1		1	
189. Ill Defined or Non-specified.....																		
A. Ill Defined.....							4			4			4				4	
B. Not Specified or Unknown.....	1	1		1			22			20	2		15	5	1	1	22	

TABLE No. 3.

Deaths in Indiana by Months, Counties, Ages, Sex, Color, Nationality and Conjugal Condition for Year 1915.

COUNTIES	Sex	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Adams.....	Total.....	25	26	20	28	28	12	16	8	15	18	24	13
	Males.....	15	17	11	12	17	9	9	2	2	9	9	9
	Females.....	10	9	9	16	11	3	7	6	9	9	11	4
Allen.....	Total.....	96	119	125	108	80	100	87	94	80	82	104	105
	Males.....	55	54	64	66	50	63	51	56	40	48	68	45
	Females.....	41	65	60	40	30	37	36	38	40	34	36	60
Bartholomew.....	Total.....	28	34	30	31	22	28	32	22	24	21	20	28
	Males.....	17	18	16	20	11	14	16	12	17	12	11	16
	Females.....	11	16	14	11	11	14	16	10	7	9	9	12
Benton.....	Total.....	11	8	11	8	8	11	4	8	16	12	3	8
	Males.....	6	6	2	3	7	6	2	6	11	8	3	5
	Females.....	5	2	9	5	1	5	2	2	5	4	.....	3
Blackford.....	Total.....	17	17	20	15	16	15	13	8	11	12	10	11
	Males.....	8	7	13	12	9	10	10	2	4	6	6	9
	Females.....	9	10	7	3	7	5	3	6	7	6	4	2
Boone.....	Total.....	25	21	35	30	22	13	21	15	31	20	24	19
	Males.....	17	11	18	15	17	8	14	6	19	10	11	13
	Females.....	8	10	17	17	15	5	7	9	12	14	13	6
Brown.....	Total.....	7	11	11	8	1	4	2	3	6	6	6	7
	Males.....	6	6	7	5	1	3	1	.....	3	3	4	5
	Females.....	1	5	4	3	.....	1	1	3	3	2	2	2
Carroll.....	Total.....	10	20	28	21	12	11	6	10	19	17	20	15
	Males.....	7	10	8	13	9	5	4	4	12	15	15	7
	Females.....	3	10	20	8	3	6	2	6	7	2	13	8
Cass.....	Total.....	50	51	66	42	42	29	39	54	42	51	62	42
	Males.....	29	19	36	23	25	16	21	27	26	27	31	25
	Females.....	21	32	30	19	17	13	18	27	16	24	31	19

TABLE No. 3—Continued.

COUNTIES	Sex	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Clark.....	Total.....	30	36	38	32	18	21	19	29	20	29	37	36
	Males.....	15	22	15	19	13	12	9	13	5	13	20	19
	Females.....	15	14	23	13	5	9	10	16	15	16	17	17
Clay.....	Total.....	32	33	31	42	21	17	26	25	32	31	34	43
	Males.....	15	19	14	18	5	8	13	14	16	19	18	23
	Females.....	17	14	17	24	16	9	13	11	16	12	16	20
Clinton.....	Total.....	27	30	40	29	27	26	19	25	27	16	20	31
	Males.....	13	17	18	18	12	12	6	11	17	7	9	16
	Females.....	14	13	22	11	9	14	13	14	10	9	11	15
Crawford.....	Total.....	13	12	16	14	4	10	9	10	9	10	9	15
	Males.....	8	6	10	6	3	4	4	7	6	4	4	8
	Females.....	5	6	6	8	1	6	5	3	3	6	3	7
Devise.....	Total.....	31	11	36	30	15	16	26	20	30	20	31	30
	Males.....	21	5	15	17	11	7	12	13	19	10	20	18
	Females.....	10	6	21	13	4	9	14	7	11	10	11	12
Dearborn.....	Total.....	29	29	25	22	16	21	18	18	18	19	19	23
	Males.....	21	16	15	12	4	13	10	12	12	8	9	3
	Females.....	8	13	10	10	12	8	8	8	6	11	10	1
Deratur.....	Total.....	20	23	25	18	26	15	23	13	10	17	15	23
	Males.....	12	10	14	12	11	8	16	6	6	6	7	13
	Females.....	8	13	11	6	15	7	7	7	4	8	3	15
Dekalb.....	Total.....	22	37	35	30	29	22	16	25	26	25	19	24
	Males.....	12	19	18	15	16	9	6	18	19	10	10	17
	Females.....	10	18	17	15	13	13	10	7	7	15	9	7
DeSaware.....	Total.....	47	57	73	66	54	37	34	53	44	39	47	71
	Males.....	23	25	43	29	30	22	22	32	26	21	25	32
	Females.....	24	32	25	37	24	15	12	21	18	18	22	39
Dubois.....	Total.....	34	24	31	22	13	18	16	8	17	17	15	19
	Males.....	19	15	14	14	3	12	10	2	13	5	9	11
	Females.....	15	9	17	8	10	6	6	6	4	12	6	8

Elbert.....	Total.....	63	66	65	50	62	33	39	36	50	46	44	41
	Males.....	38	33	31	24	32	18	20	26	26	21	20	22
	Females.....	25	33	34	26	30	20	19	10	24	25	24	19
Fayette.....	Total.....	15	23	22	19	14	14	12	23	17	18	10	16
	Males.....	7	13	12	11	9	6	4	12	10	11	5	7
	Females.....	8	10	10	8	5	8	8	11	7	7	5	9
Floyd.....	Total.....	48	37	43	26	30	33	34	27	27	29	35	39
	Males.....	23	19	22	22	18	18	17	13	13	18	18	19
	Females.....	25	18	21	14	12	15	17	14	14	11	17	20
Fountain.....	Total.....	14	25	29	17	23	17	12	13	25	15	16	17
	Males.....	8	11	17	7	10	7	8	9	16	9	9	13
	Females.....	6	14	12	10	13	10	4	4	9	6	7	4
Franklin.....	Total.....	16	18	24	13	17	17	17	8	17	12	20	17
	Males.....	6	7	11	9	7	8	10	4	7	5	11	11
	Females.....	10	11	13	4	10	9	7	4	10	7	9	6
Fulton.....	Total.....	13	20	18	20	18	18	20	10	11	20	17	20
	Males.....	6	12	13	10	9	11	11	4	5	12	8	10
	Females.....	7	8	5	10	9	7	9	6	6	8	9	10
Gibson.....	Total.....	27	44	48	27	23	24	29	20	36	21	34	26
	Males.....	10	25	20	15	12	18	16	12	20	13	14	13
	Females.....	17	19	28	12	11	6	13	8	16	8	20	13
Grant.....	Total.....	60	83	71	70	72	68	65	66	67	70	61	82
	Males.....	36	50	42	42	46	46	32	34	40	41	44	32
	Females.....	24	33	29	28	26	22	33	26	26	29	19	35
Greene.....	Total.....	46	39	46	35	22	25	27	17	36	34	30	29
	Males.....	23	19	33	19	13	10	15	10	21	18	15	18
	Females.....	23	20	13	16	9	15	12	7	15	16	15	11
Hamilton.....	Total.....	38	33	31	29	33	19	19	28	26	21	26	20
	Males.....	16	13	12	12	18	11	14	12	13	10	14	11
	Females.....	22	20	18	17	15	8	5	16	13	5	12	9
Hancock.....	Total.....	19	26	21	33	20	10	12	17	15	12	15	13
	Males.....	8	16	8	19	13	7	5	11	10	6	7	12
	Females.....	11	10	13	14	7	3	7	6	5	6	8	1
Harrison.....	Total.....	20	26	27	17	14	14	12	19	14	11	18	19
	Males.....	11	11	12	7	6	8	7	8	9	3	8	10
	Females.....	9	15	15	10	8	6	5	11	5	8	10	9

TABLE No. 3—Continued.

COUNTIES	Sex	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Hendricks.....	Total.....	31	23	25	19	28	14	18	17	15	25	25	14
	Males.....	16	14	17	3	17	8	10	5	9	14	15	6
	Females.....	15	9	8	16	11	6	13	7	6	11	10	8
Henry.....	Total.....	34	39	42	41	39	30	33	33	33	39	32	25
	Males.....	19	22	24	17	16	18	19	16	21	25	23	14
	Females.....	15	17	18	24	23	12	14	17	12	14	9	11
Howard.....	Total.....	34	35	46	38	35	28	34	31	37	34	27	42
	Males.....	17	19	23	20	16	11	20	17	18	21	18	17
	Females.....	17	16	23	18	19	14	14	14	19	13	9	25
Huntington.....	Total.....	19	26	37	27	26	35	35	21	29	26	29	24
	Males.....	11	13	16	13	12	20	22	12	15	15	13	11
	Females.....	8	13	21	14	14	15	13	9	14	13	16	13
Jackson.....	Total.....	22	25	34	26	24	18	20	26	22	30	28	25
	Males.....	13	10	16	19	11	11	18	13	13	18	12	13
	Females.....	9	15	18	7	13	7	12	13	11	12	11	12
Jasper.....	Total.....	13	12	12	10	11	6	9	4	12	17	4	8
	Males.....	8	7	6	6	4	3	3	3	7	11	3	6
	Females.....	5	5	6	5	6	6	6	1	5	6	1	2
Jay.....	Total.....	18	23	37	28	19	16	23	19	19	28	14	23
	Males.....	8	8	22	11	10	7	13	9	15	16	6	7
	Females.....	10	15	15	17	9	7	10	10	12	12	8	16
Jefferson.....	Total.....	32	39	44	35	24	25	32	26	34	20	31	49
	Males.....	17	21	24	20	9	10	17	18	15	7	17	26
	Females.....	15	18	23	15	15	15	15	18	19	13	14	23
Jennings.....	Total.....	21	17	24	12	13	11	17	15	21	13	12	17
	Males.....	12	9	11	4	8	8	9	9	12	8	6	5
	Females.....	9	8	13	8	8	6	8	6	9	5	6	12
Johnson.....	Total.....	23	33	18	16	19	22	13	20	23	18	20	23
	Males.....	9	16	9	7	9	10	7	10	13	12	11	7
	Females.....	14	17	9	11	10	12	6	10	10	6	9	16

Knorr.....	Total.....	45	51	50	35	36	32	61	28	29	49	36	55
	Males.....	27	26	31	17	20	19	33	14	14	22	18	35
	Females.....	18	22	19	18	16	13	28	14	15	27	18	20
Kosciusko.....	Total.....	16	29	41	33	21	19	23	27	32	21	18	30
	Males.....	5	21	19	18	10	11	14	19	18	8	12	15
	Females.....	11	8	22	15	11	8	9	8	14	13	6	15
Lagrange.....	Total.....	11	19	27	18	15	17	10	24	14	9	15	13
	Males.....	4	12	13	11	8	11	2	9	8	5	10	8
	Females.....	7	7	14	7	7	6	8	15	6	4	5	9
Lake.....	Total.....	117	116	147	137	109	102	120	141	126	102	92	160
	Males.....	64	71	81	83	68	64	82	84	84	59	54	104
	Females.....	53	45	66	54	41	38	38	57	42	43	38	56
Laporte.....	Total.....	50	57	63	50	51	48	33	36	41	53	45	45
	Males.....	30	32	36	27	27	26	16	26	16	33	26	28
	Females.....	20	24	27	23	14	19	17	10	25	20	19	17
Lawrence.....	Total.....	31	40	46	29	27	26	24	26	30	30	34	37
	Males.....	19	17	16	17	15	16	10	18	13	15	14	21
	Females.....	12	23	30	12	12	10	14	8	17	15	20	16
Madison.....	Total.....	81	70	77	57	57	55	54	56	68	63	61	67
	Males.....	55	34	34	26	26	26	21	32	36	45	30	36
	Females.....	26	36	43	29	27	26	33	24	32	18	31	28
Marion.....	Total.....	426	402	455	389	340	300	332	305	305	349	373	409
	Males.....	223	223	242	204	196	160	198	183	168	191	179	232
	Females.....	183	179	213	185	144	140	134	124	137	158	194	177
Marshall.....	Total.....	26	26	30	31	22	24	17	17	10	16	28	26
	Males.....	17	10	14	16	12	12	12	12	8	10	15	12
	Females.....	9	16	16	15	10	12	5	5	2	6	13	14
Martin.....	Total.....	8	12	14	15	7	6	15	8	9	10	5	10
	Males.....	4	6	4	11	4	1	9	5	3	4	4	7
	Females.....	4	6	10	4	3	5	7	3	6	6	1	3
Miami.....	Total.....	35	46	35	36	30	21	20	30	23	18	22	32
	Males.....	19	24	25	22	21	10	11	15	16	11	10	16
	Females.....	16	22	12	14	9	11	9	15	7	7	12	16
Monroe.....	Total.....	24	28	25	24	21	13	23	22	22	28	20	27
	Males.....	14	14	13	8	13	8	16	13	14	12	7	10
	Females.....	10	14	12	16	8	5	7	9	8	16	13	17

Porter.....	Total.....	21	27	28	27	20	11	23	18	22	17	15	20
	Males.....	13	13	17	13	12	6	16	11	14	8	10	10
	Females.....	8	14	11	14	8	5	7	7	8	9	5	10
Posey.....	Total.....	16	20	15	16	21	12	28	19	26	19	21	19
	Males.....	10	11	6	8	9	6	14	12	12	12	13	13
	Females.....	6	9	9	8	12	6	14	7	14	7	8	6
Puhaki.....	Total.....	10	16	14	12	12	7	10	11	14	13	5	10
	Males.....	3	10	5	6	5	3	1	5	4	8	5	8
	Females.....	7	6	9	6	7	4	9	6	10	5	1	2
Putnam.....	Total.....	26	19	32	21	16	20	18	20	20	21	16	23
	Males.....	15	13	10	12	12	8	11	11	8	14	10	12
	Females.....	11	6	13	9	4	12	7	9	12	7	6	11
Randolph.....	Total.....	40	25	29	44	29	24	23	23	33	29	22	37
	Males.....	23	13	9	17	16	13	12	12	18	16	12	20
	Females.....	17	12	20	27	13	11	11	13	17	13	10	17
Ripley.....	Total.....	17	23	22	26	28	12	12	20	15	14	17	19
	Males.....	8	11	14	16	14	9	6	12	7	8	11	13
	Females.....	9	12	8	10	14	3	6	8	8	6	6	6
Rush.....	Total.....	23	26	26	26	17	19	19	20	13	16	19	17
	Males.....	14	16	12	14	10	4	9	11	6	7	8	10
	Females.....	9	10	14	12	7	15	10	9	7	9	11	7
Scott.....	Total.....	9	11	13	6	4	5	6	3	10	7	6	12
	Males.....	5	4	1	3	1	3	3	2	7	4	4	5
	Females.....	4	7	12	3	3	2	3	1	3	3	2	7
Shelby.....	Total.....	28	35	36	33	37	41	32	36	30	20	23	32
	Males.....	9	17	18	16	12	12	17	16	16	12	17	23
	Females.....	19	18	18	17	25	29	15	19	14	8	6	9
Spencer.....	Total.....	13	22	25	15	13	12	21	21	13	24	16	26
	Males.....	6	13	13	8	5	12	14	11	8	16	12	15
	Females.....	7	9	12	7	8	7	7	10	5	8	4	11
Stark.....	Total.....	7	10	19	14	12	9	9	7	5	9	7	7
	Males.....	5	5	12	7	6	6	5	3	2	8	4	3
	Females.....	2	5	7	7	3	3	4	4	3	1	3	4
Sturben.....	Total.....	15	14	19	20	11	12	10	19	10	15	14	19
	Males.....	7	8	13	10	3	10	5	10	9	8	9	11
	Females.....	8	6	6	10	8	7	5	9	7	6	5	8

TABLE No. 3—Continued.

COUNTIES	Sex	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
St. Joseph	Total	80	105	125	111	87	70	70	60	87	93	94	104
	Males	45	48	72	66	53	46	47	43	51	58	53	59
	Females	35	57	53	45	34	33	32	27	36	35	42	45
Sullivan	Total	32	33	42	34	25	18	27	23	27	21	31	49
	Males	23	16	18	18	19	7	11	14	14	12	17	37
	Females	9	18	26	16	6	11	16	9	13	9	14	22
Switzerland	Total	13	9	14	8	12	11	15	7	2	10	9	10
	Males	6	4	6	6	6	4	7	5	2	5	5	5
	Females	7	5	8	2	3	7	8	2	.....	5	3	5
Tippecanoe	Total	60	59	86	62	57	49	51	54	48	42	63	81
	Males	32	31	44	34	31	23	24	27	23	17	32	43
	Females	28	28	42	28	26	27	27	27	25	25	31	38
Tipton	Total	19	20	23	24	15	18	16	8	20	18	14	15
	Males	9	10	12	12	11	8	6	7	10	8	7	9
	Females	10	10	11	12	4	10	10	1	10	10	7	6
Union	Total	8	5	6	5	12	4	6	7	11	7	8	7
	Males	5	3	3	3	3	.....	2	6	5	3	3	3
	Females	3	2	3	2	8	4	4	1	6	4	4	4
Vanderburgh	Total	133	122	116	108	99	71	107	81	99	104	116	115
	Males	68	56	71	68	45	40	58	44	48	56	71	75
	Females	65	66	45	44	54	31	49	37	51	48	45	40
Vermillion	Total	25	22	39	24	18	10	30	23	23	24	20	28
	Males	14	9	19	16	10	4	16	9	11	16	13	15
	Females	11	13	20	8	8	6	14	14	11	8	7	13
Vigo	Total	109	137	125	115	91	87	93	102	114	113	86	119
	Males	72	73	60	67	58	33	55	54	58	48	41	62
	Females	37	64	65	48	33	49	38	58	60	65	45	57
Wabash	Total	16	27	39	29	29	24	21	32	20	28	23	25
	Males	8	16	19	13	13	10	14	18	14	14	13	15
	Females	8	11	20	16	16	14	7	18	6	10	10	10

Warren.....	Total.....	9	9	16	15	11	8	8	9	9	7	8	12
	Males.....	6	7	13	10	8	3	4	5	5	3	3	6
	Females.....	3	2	3	5	3	5	4	4	4	4	5	6
Warwick.....	Total.....	27	23	28	20	11	17	15	18	15	20	21	17
	Males.....	14	14	16	6	6	10	6	11	10	12	13	11
	Females.....	13	9	10	14	5	7	9	7	5	8	8	6
Washington.....	Total.....	20	22	17	29	16	11	14	14	11	12	12	14
	Males.....	9	15	7	11	10	7	7	8	7	8	9	7
	Females.....	11	7	10	18	6	4	7	6	4	4	3	7
Wayne.....	Total.....	52	54	79	70	55	55	47	55	51	51	55	54
	Males.....	29	30	41	39	20	29	23	36	28	28	24	29
	Females.....	23	24	38	31	35	26	24	19	23	23	31	25
Wells.....	Total.....	22	14	30	19	18	13	7	15	17	13	12	24
	Males.....	9	7	20	8	8	8	4	8	11	9	6	15
	Females.....	13	7	10	11	10	5	3	7	6	4	6	9
White.....	Total.....	17	19	22	11	14	10	8	13	16	18	14	14
	Males.....	9	9	12	5	9	5	2	9	8	7	3	7
	Females.....	8	10	10	6	5	5	6	4	8	11	11	7
Whitley.....	Total.....	20	17	22	16	15	14	11	16	11	18	22	15
	Males.....	11	10	12	8	9	8	8	7	6	10	11	7
	Females.....	9	7	10	8	6	6	3	9	5	8	11	8
Grand Total.....	Total.....	3,161	3,378	3,817	3,260	2,736	2,433	2,596	2,602	2,743	2,725	2,750	3,215
	Males.....	1,739	1,767	1,971	1,740	1,509	1,295	1,429	1,438	1,494	1,502	1,471	1,768
	Females.....	1,422	1,611	1,846	1,520	1,227	1,138	1,167	1,164	1,249	1,223	1,279	1,447

TABLE No. 3—Continued.

Deaths in Indiana by Months, Counties, Ages, Sex, Color, Nationality and Conjugal Condition for Year 1915.

COUNTIES	Sex	Under 1	1	2	3	4	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69
Adams	Total	26	5	4	2	2	39	4	3	6	7	3	3	10	7	4	21	6	21	18
	Males	19	3	2	1	1	26	2	2	2	4	1	2	7	1	3	12	4	14	7
Allen	Total	143	19	4	6	4	176	24	14	33	43	49	50	41	50	54	78	72	88	81
	Males	88	11	3	4	2	108	13	6	20	23	23	25	25	25	31	47	49	57	43
Bartholomew	Total	35	3	2	2	1	43	6	2	7	10	4	8	13	10	12	23	24	28	26
	Males	19	3	2	1	1	23	6	2	4	5	2	4	4	3	7	11	10	17	20
Benton	Total	16	5	2	2	2	25	3	3	2	1	1	1	5	1	3	4	6	6	7
	Males	12	3	1	2	1	18	2	2	1	1	1	1	3	1	2	3	3	5	3
Blackford	Total	36	3	1	1	1	41	2	3	7	6	2	7	5	4	5	5	15	9	12
	Males	18	3	1	1	1	23	1	2	5	3	1	2	3	2	4	3	10	6	6
Boone	Total	32	5	4	1	1	43	6	3	8	11	6	3	5	8	5	9	15	18	24
	Males	16	2	1	1	1	19	5	2	6	6	2	1	1	1	3	3	8	8	18
Brown	Total	16	3	3	1	1	24	1	1	3	5	4	2	4	5	2	6	7	10	6
	Males	8	3	3	1	1	15	6	3	3	5	3	1	1	3	3	1	4	2	10
Carroll	Total	25	9	4	1	1	39	5	1	1	5	2	7	4	6	6	10	5	12	23
	Males	11	7	2	1	1	20	1	1	1	3	1	3	1	4	4	6	3	8	17
Cass	Total	52	3	3	6	5	69	6	4	7	13	15	29	32	37	33	39	45	42	48
	Males	33	2	3	3	2	43	1	1	3	6	7	15	22	22	23	29	33	29	30
	Females	19	1	...	3	3	26	4	3	4	7	8	14	10	20	15	16	16	16	18

Clark.	Total.	43	6	6	4	2	2	62	8	9	11	14	9	7	13	12	27	16	28
	Males	23	3	4	2	2	36	3	4	5	6	6	6	3	4	8	15	6	11
	Females	18	3	2	1	1	26	5	5	6	5	8	3	6	6	4	12	10	17
Clay.	Total.	38	9	9	5	2	63	12	11	10	8	11	6	6	9	19	22	21	26
	Males	22	3	4	2	34	4	8	4	6	5	6	4	4	3	8	16	14	13
	Females	15	6	7	1	29	8	3	6	6	3	5	5	2	6	11	6	7	13
Clinton.	Total.	42	11	1	3	1	57	6	7	4	4	6	12	8	8	9	20	18	25
	Males	23	4	1	1	34	3	3	3	3	3	1	4	2	5	5	12	9	15
	Females	14	7	1	2	23	3	4	2	2	1	5	8	6	4	4	8	9	10
Crawford.	Total.	20	4	1	1	1	25	4	4	4	1	4	4	4	2	2	7	8	8
	Males	11	3	1	1	14	3	4	4	4	1	1	1	2	2	2	3	5	6
	Females	9	1	1	1	11	1	1	1	1	1	3	2	2	1	1	4	3	9
Davies.	Total.	50	10	2	1	2	65	6	5	8	8	11	9	9	7	9	16	20	16
	Males	26	4	1	1	2	33	5	5	4	4	4	4	4	3	7	13	9	14
	Females	24	6	1	1	1	32	1	1	4	4	7	5	5	4	2	3	7	7
Dearborn.	Total.	23	4	1	1	2	31	3	6	8	11	9	5	5	13	11	12	18	18
	Males	12	2	1	1	1	15	3	3	6	7	7	3	3	9	6	6	4	11
	Females	11	2	1	1	1	16	1	3	5	4	2	2	2	4	5	4	8	7
Deatur.	Total.	30	1	3	1	1	36	4	2	1	5	2	4	4	8	3	10	13	14
	Males	19	1	1	1	1	23	3	2	1	4	1	1	2	1	3	5	7	8
	Females	11	2	2	1	1	13	1	1	1	1	2	3	2	7	2	6	6	11
Detail.	Total.	32	4	3	1	1	40	2	3	15	8	8	8	8	8	16	18	17	24
	Males	20	1	2	1	1	24	1	1	7	4	5	2	2	9	9	10	11	16
	Females	12	3	1	1	1	16	1	2	8	4	3	6	6	6	7	8	6	8
Delaware.	Total.	87	17	9	3	3	119	15	10	21	20	19	20	20	26	18	30	37	41
	Males	47	8	7	2	1	65	7	6	9	9	6	9	13	10	16	25	18	22
	Females	40	9	2	1	2	54	8	4	12	11	13	11	13	8	14	14	19	24
Dubois.	Total.	31	6	6	5	5	53	7	5	6	8	7	5	7	7	2	10	9	16
	Males	15	4	3	2	2	26	3	4	3	7	2	3	3	3	2	6	4	8
	Females	16	2	3	3	3	27	4	1	3	1	5	3	4	4	1	6	6	11
Elkhardt.	Total.	73	7	5	3	2	90	12	5	10	9	18	17	13	13	27	38	34	52
	Males	35	4	3	1	2	45	8	5	8	5	8	8	7	12	13	21	16	28
	Females	38	3	2	2	1	45	4	4	4	4	10	9	6	6	15	17	18	26
Fayette.	Total.	19	6	3	2	1	30	3	4	6	4	6	7	8	6	3	13	12	13
	Males	10	3	1	1	1	15	1	2	1	4	3	3	3	3	1	8	7	8
	Females	9	3	2	1	1	15	2	2	5	1	4	4	4	3	2	5	5	11

TABLE No. 3—Continued.

COUNTIES	Sex	Under 1	1	2	3	4	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69
Floyd	Total	35	7	2	2	5	51	8	7	12	14	17	17	20	19	15	29	29	25	39
	Males	21	3	2	1	3	29	3	4	2	6	10	13	7	13	8	10	17	9	25
	Females	14	4				22	5	3	10	8	7	4	13	6	7	19	12	16	14
Fountain	Total	24	3	4	2	2	35	2	3	3	5	6	4	9	2	8	10	11	10	17
	Males	14	3	1	1	1	20	1	1	1	4	6	2	7		2	7	6	9	8
	Females	10	3	3	1	1	15	1	2	2	1	1	2	2		3	3	5	1	9
Franklin	Total	25	1	7	1	2	36	3	1	3	3	5	5	5	3	9	6	11	16	17
	Males	21	1	2	1	1	28	1		2	1	3	3	2		4	5	5	5	7
	Females	4		5		1	10	2	1	1	2	2	2	3	3	5	1	6	7	10
Fulton	Total	22	4	4	2		32	9	1	5	2	4	3	4	8	9	8	16	17	29
	Males	7	2	2	1		12	7	1	3		1	1	1	1	8	5	10	12	19
	Females	15	2	2	1		20	2		2	2	3	2	3	7	1	3	6	5	10
Gibson	Total	70	18	4		2	96	6	6	10	11	9	8	7	7	8	16	19	23	31
	Males	37	14	3			54	2	2	6	6	6	3	5	3	3	9	10	15	19
	Females	33	4	1		2	40	4	4	4	5	3	5	2	4	5	7	9	13	12
Grant	Total	93	16	7	5	5	126	9	11	13	26	34	29	18	34	29	27	37	44	63
	Males	52	6	4	2		61	5	6	6	14	10	14	5	19	18	14	20	21	59
	Females	41	10	3	3	5	62	4	5	9	12	14	14	13	15	11	13	17	23	25
Greene	Total	62	15	8	6	5	96	10	9	11	9	20	6	13	17	13	13	24	25	32
	Males	40	5	8	4	3	60	6	4	5	5	9	3	7	9	9	8	12	16	11
	Females	22	10		2	2	36	4	5	6	4	11	3	6	8	4	5	12	9	21
Hamilton	Total	49	7	4	2	1	63	6	4	10	5	12	10	7	9	8	12	14	25	34
	Males	31	3	3			37	4	2	6	1	7	6	2	3	4	7	8	12	11
	Females	18	4	1	2	1	26	2	2	4	4	5	4	5	6	4	5	6	13	23
Hancock	Total	22	4	2		2	30	6	3	3	4	3	7	7	11	4	6	13	20	21
	Males	15	2	1		1	19	3	2	1	2	2	4	6	5	2	2	9	13	9
	Females	7	2	1		1	11	3	3	2	1	1	3	1	6	2	4	9	7	12
Harrison	Total	29	5	5	5		39	3	6	8	5	2	7	6	6	13	9	4	11	18
	Males	14	2	3	3		19	2	3	2	1	1	1	2	2	5	3	3	7	8
	Females	15	3	2			20	1	3	6	4	1	3	4	4	8	6	4	4	10

Hendricks	Total	22	6	4	1	1	34	2	4	5	11	8	6	7	3	9	17	12	11	25
Males	9	0	3	3	1	1	10	2	3	2	5	4	4	5	3	5	8	7	5	10
Females	13	3	3	1	1	1	13	1	1	3	6	4	2	2	0	4	9	5	15	
Henry	Total	55	12	5	3	1	77	8	8	14	12	13	16	9	11	17	20	25	19	36
Males	37	7	2	2	1	1	47	6	6	5	5	3	9	7	8	8	13	14	8	21
Females	19	5	3	3	3	3	30	2	2	9	7	10	7	2	3	9	7	11	13	15
Howard	Total	73	12	8	5	2	100	7	5	11	11	16	17	12	18	17	26	20	19	35
Males	38	7	3	3	2	1	42	5	3	6	4	8	9	6	10	8	16	10	11	21
Females	35	5	5	2	2	1	43	2	2	5	7	8	8	6	8	9	10	10	8	14
Huntington	Total	34	2	4	3	2	45	5	4	6	8	8	7	11	9	10	22	19	28	36
Males	18	1	2	1	1	1	23	3	3	5	2	2	3	5	4	8	17	13	17	24
Females	16	1	2	2	1	1	22	2	1	1	6	6	4	6	5	2	5	6	11	12
Jackson	Total	51	11	4	3	2	71	6	8	11	11	7	7	9	7	10	18	15	21	31
Males	30	6	1	3	1	1	41	3	3	3	5	5	3	2	3	5	12	5	12	11
Females	21	5	3	3	1	1	30	3	5	8	6	2	4	7	4	5	6	10	9	10
Jasper	Total	21	2	1	2	2	28	3	3	1	5	5	2	5	3	3	3	3	3	4
Males	13	1	1	1	1	1	17	2	3	1	1	1	2	2	2	1	2	1	2	3
Females	8	1	1	1	1	1	11	1	0	0	4	4	0	3	1	2	1	2	1	1
Jay	Total	36	5	1	2	1	45	10	2	9	9	10	9	6	6	6	14	10	25	23
Males	21	2	1	2	1	1	28	6	1	2	2	4	2	3	3	3	4	9	11	11
Females	15	3	0	0	0	0	17	4	1	7	7	6	7	3	3	3	10	7	14	12
Jefferson	Total	30	7	3	2	1	43	8	5	7	13	15	16	12	23	12	27	27	29	35
Males	15	3	1	1	1	1	20	1	2	3	6	6	7	7	11	8	17	15	12	21
Females	15	4	2	1	1	1	23	7	3	4	8	9	9	5	12	4	10	12	17	14
Jennings	Total	16	5	2	2	2	23	8	4	7	8	3	4	5	6	6	8	7	20	13
Males	8	4	2	2	2	2	14	3	2	2	6	3	2	3	3	2	4	2	9	6
Females	8	1	0	0	0	0	9	5	2	5	2	0	2	2	3	4	4	8	11	7
Johnson	Total	31	6	2	4	1	44	4	3	6	3	5	6	2	4	5	10	11	20	22
Males	19	1	1	3	1	1	24	4	2	5	3	2	2	3	3	2	6	7	9	6
Females	12	5	1	1	1	1	20	0	1	1	0	3	4	0	1	3	4	4	11	16
Knox	Total	86	29	14	10	3	142	17	9	8	20	13	18	18	24	19	24	26	37	26
Males	55	13	7	4	4	3	87	13	5	2	14	11	11	7	8	8	14	14	26	15
Females	31	11	4	6	3	3	55	4	4	6	6	11	7	11	16	11	10	12	11	11
Kosciusko	Total	44	7	3	1	1	55	3	4	4	12	4	11	6	9	8	12	15	31	25
Males	26	4	3	1	1	1	34	3	1	4	8	2	6	2	5	3	6	6	20	15
Females	18	3	0	0	0	0	21	0	3	0	4	2	5	4	4	5	6	9	11	10

TABLE No. 3—Continued.

COUNTIES	Sex	Under 1	1	2	3	4	Under 5	5	10	15	20	25	30	35	40	45	50	55	60	65
Lagrange.....	Total.....	25	1	.....	.....	1	27	1	2	5	7	4	4	8	8	5	6	11	13	20
	Males.....	13	1	.....	.....	.....	14	.....	1	3	4	3	2	1	4	2	3	6	7	9
	Females.....	12	.....	.....	.....	1	13	1	1	2	3	1	2	7	4	3	3	5	6	11
Lake.....	Total.....	501	85	22	15	12	635	34	16	25	56	82	66	65	67	70	62	56	45	50
	Males.....	265	41	12	9	7	304	16	7	13	37	53	37	53	52	49	35	32	32	37
	Females.....	206	44	10	6	5	271	18	9	10	19	29	29	12	15	21	27	18	13	13
Laporte.....	Total.....	94	14	4	2	4	120	9	8	18	15	20	19	19	22	16	33	40	41	32
	Males.....	58	10	2	1	2	73	5	5	13	9	11	10	12	11	7	24	18	27	22
	Females.....	38	4	2	1	2	47	4	3	5	6	9	9	7	11	9	9	22	14	10
Lawrence.....	Total.....	71	11	5	3	2	92	9	10	12	16	10	13	11	14	12	21	19	29	32
	Males.....	38	6	4	1	1	50	1	6	7	4	4	7	4	3	4	12	9	16	16
	Females.....	33	5	1	2	1	42	8	4	5	12	6	6	7	11	8	9	10	13	14
Madison.....	Total.....	117	17	6	2	3	145	16	12	12	19	25	34	29	27	35	43	42	71	64
	Males.....	63	9	4	.....	2	79	9	6	4	11	12	17	15	17	21	17	23	40	31
	Females.....	54	8	2	2	1	67	7	6	8	8	13	17	14	10	14	26	19	31	33
Marion.....	Total.....	513	70	39	33	18	673	64	55	100	197	210	193	233	246	270	302	307	338	298
	Males.....	289	37	20	13	11	370	41	31	49	99	124	101	134	128	152	164	185	198	182
	Females.....	224	33	19	20	7	303	23	24	54	98	86	92	119	118	118	108	122	140	116
Marshall.....	Total.....	41	7	2	.....	.....	50	8	3	2	13	6	4	6	10	6	11	21	23	22
	Males.....	21	5	1	.....	.....	27	4	2	2	9	3	1	3	6	4	4	12	10	10
	Females.....	20	2	1	.....	.....	23	4	1	.....	7	3	3	3	4	2	7	9	13	12
Martin.....	Total.....	31	4	1	4	1	41	1	2	6	2	4	1	3	2	3	5	4	5	6
	Males.....	22	2	1	2	.....	27	1	1	3	1	2	.....	2	.....	2	1	2	3	2
	Females.....	9	2	.....	2	1	14	1	1	3	1	2	1	2	2	1	4	2	2	4
Miami.....	Total.....	31	4	5	4	2	46	2	7	10	9	6	10	14	16	8	19	15	33	30
	Males.....	14	2	3	2	2	23	1	6	7	4	3	7	9	12	4	12	6	23	19
	Females.....	17	2	2	2	.....	23	1	1	3	5	3	3	5	4	4	7	9	10	11
Monroe.....	Total.....	55	13	7	.....	.....	75	6	3	8	11	9	6	18	10	9	11	22	15	14
	Males.....	29	6	5	.....	.....	42	4	1	6	5	4	3	5	6	5	8	16	9	8
	Females.....	20	6	2	.....	.....	33	2	2	3	6	5	3	13	4	4	3	6	12	5

Montgomery	Total	44	4	4	1	2	56	6	7	9	10	17	8	12	7	13	21	26	34
	Males	22	3	2	1	2	27	4	2	2	4	6	5	3	7	4	11	17	18
	Females	22	1	2		1	29	2	4	5	9	11	5	5	4	2	10	16	16
Morgan	Total	35	4	3	1	2	45	8	4	7	5	12	5	5	8	9	10	20	24
	Males	22	2	3	1	1	28	7	1	4	4	6	4	2	4	5	7	10	11
	Females	13	2			1	16	1	3	1	1	6	3	3	6	4	3	10	13
Newton	Total	16	1			1	18	2				2	1	2	7	2	3	4	6
	Males	10	1				11	1					1	2	3	2	2	3	5
	Females	6				1	7	1						1	4		1	1	1
Noble	Total	29	9	4	1	1	44	1	2	6	7	9	4	13	9	13	12	11	26
	Males	17	5	1	1	1	25	1	2	3	5	5	4	7	6	8	6	4	19
	Females	12	4	3			19			3	2	4	2	6	3	5	6	7	7
Ohio	Total	7	4		1		8	1		1	2	2		1		1		4	6
	Males	4			1		5	1			1	1						1	4
	Females	3					3				1	1		1		1		3	2
Orange	Total	31	8	5	3		47	4	7	7	9	8	9	9	7	7	18	9	13
	Males	16	4	3	2		24	1	4	1	6	2	2	1	5	3	11	7	8
	Females	15	4	2	1		23	3	3	6	3	6	8	4	6	4	7	10	5
Owen	Total	18	4	2	1	1	26	1	3	4	5	2	4	5	5	9	11	7	14
	Males	4	2	1		1	8					2	2	1	2	3	6	5	2
	Females	14	2	1	1		18	1	3	3	3		3	3	3	6	5	9	9
Parke	Total	33	6	6	2	2	49	6	3	11	10	8	13	5	11	10	18	20	26
	Males	20	3	4	1	1	26	2	2	7	6	5	9	1	8	5	8	13	15
	Females	13	3	2	1	1	20	4	1	4	4	3	4	4	3	5	13	12	11
Perry	Total	30	6	6	5	2	49	3	3	7	6	7	5	2	8	11	4	7	10
	Males	21	1	5	4	2	33	2	2	4	3	4	3	1	6	9	3	5	13
	Females	9	5	1	1		16	1	1	3	2	4	2	1	2	2	1	4	7
Pike	Total	48	14	6	3	2	73	7	3	8	15	9	3	6	5	11	9	5	21
	Males	25	8	1	3	1	38	5	2	2	7	4	1	2	3	6	6	4	11
	Females	23	6	5		1	35	2	1	6	8	5	2	4	2	5	3	1	10
Porter	Total	30	6	1	3	1	41	4	4	11	9	6	7	12	13	7	19	9	15
	Males	22	3		2	1	28	3	3	8	8	4	4	4	8	7	5	7	11
	Females	8	3	1			13	1	2	3	1	2	3	4	6	2	4	2	4
Poey	Total	31	11	9	1	2	54	5	6	6	9	4	6	8	8	8	7	11	15
	Males	24	3	3			33	4	2	4	5	3	3	3	3	3	6	9	13
	Females	7	8	6	1	2	21	1	4	2	4	1	3	5	5	5	1	2	2

TABLE No. 3—Continued.

COUNTIES	Under 1	1	2	3	4	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69
Pulaski.....	25 14 11	6 2 4	2 1 1	1 1 1	1 1 1	35 18 17	.....	1	3 3	1 1	2	2 1	2	3 2	4	5 4	10 5	11 7 4	13 7 6
Putnam.....	19 12 7	3 3 1	1 1	4 1 3	1 1	28 18 10	2 2	2 1	4 2	9 4 6	8 4 4	9 4 5	11 4 4	6 7 2	5 3 2	9 4 5	13 9 4	28 18 10	35 24 11
Randolph.....	46 28 18	5 2 3	4 2 2	5 5	2 1	62 38 24	6 3 3	8 5 3	12 7 7	7	3	9 5 4	14 10	11 8 3	10 6	9 5 5	20 14 6	34 23 18	34 24 18
Ripley.....	23 12 11	6 3 3	5 4 1	2 2	2 2	38 21 17	1 1	2	4 3 1	9 4 5	3 2	7 2	8 6 2	9 5 4	6 1	12 9 3	13 8 5	17 14 3	16 9 7
Rush.....	25 14 11	5 1 4	4 1 1	1	2 1	37 19 18	6 5 1	.....	5 3 2	8 3 5	9 2 7	9 5 3	8 5 3	5 5 3	7 2 5	10 9 4	21 11 10	21 11 14	21 14 7
Scott.....	17 9 8	2 1 2	2 1 1	2 1	2 1	25 11 14	1 1	1 .....	.....	2	4	4 2	4 1 .....	.....	4 2	5 3	5 2	5 3	5 3
Shelby.....	42 21 21	6 2 4	6 2 4	2 2	3 3	39 22 27	6 2 4	5 4 5	10 5 5	13 8 8	13 5 5	7 3 4	9 6 6	15 6 7	19 10 9	24 13 12	38 18 12	32 18 20	32 18 14
Spencer.....	22 22 7	5 2 3	1 1	3 1	2 1	43 29 14	5 4 1	3 2	6 4 2	10 5 5	6 3 3	11 8 3	4 3 3	16 7 1	4 3 1	8 7 1	14 6 6	14 8 8	12 5 7
Stark.....	18 10 8	4 3 1	2 2 .....	.....	.....	24 15 9	3 3	1	5 3	5 2	1	2	7 3	4 3 1	6 5	4 3	6 4	8 6 2	7 6 1
Steuben.....	21 10 11	.....	1 .....	.....	.....	22 10 12	1 1 .....	.....	4 2	4	7	1	5 3	7 6 4	10 8	10 7 3	12 5	13 8 5	14 7 7

St. Joseph	Total	216	36	12	7	4	275	30	23	20	25	44	43	37	51	56	56	74	74	81
	Males	144	24	8	5	3	164	14	13	11	13	22	20	21	29	35	34	34	48	46
	Females	72	12	4	2	1	91	16	8	9	10	22	23	16	22	21	22	40	26	35
Sullivan	Total	74	15	4	3	5	101	15	6	10	0	15	7	20	12	5	7	19	20	23
	Males	46	9	2	1	4	62	9	4	6	0	7	5	12	7	2	5	7	8	16
	Females	28	6	2	2	1	39	6	2	4	8	8	2	8	5	3	2	12	12	13
Switzerland	Total	14	2	1	1	1	17	1	1	1	3	1	3	2	5	5	12	4	9	14
	Males	9	2	1	1	1	12	1	1	1	2	1	3	1	3	3	6	3	3	6
	Females	5	1	1	1	1	5	1	1	1	1	1	1	1	2	2	6	1	6	8
Tippecanoe	Total	60	5	3	2	2	72	9	9	8	26	25	24	22	23	26	32	47	57	61
	Males	31	2	1	2	2	38	5	5	5	18	15	12	12	17	11	24	24	33	33
	Females	29	3	2	1	1	34	4	4	3	12	10	12	15	12	12	18	23	22	28
Tipton	Total	37	7	1	1	1	40	3	5	4	3	5	7	5	4	1	13	13	19	10
	Males	23	3	1	1	1	27	3	3	2	2	3	2	2	1	1	8	6	9	4
	Females	14	4	1	1	1	19	1	2	2	1	3	4	3	3	5	5	7	10	6
Union	Total	7	2	2	1	1	10	1	1	1	1	1	1	1	2	2	4	3	8	11
	Males	5	1	1	1	1	6	1	1	1	1	1	1	1	2	2	3	2	3	2
	Females	2	1	1	1	1	4	1	1	1	1	1	1	1	2	2	1	1	5	9
Vanderburgh	Total	167	39	12	7	7	232	17	19	32	74	56	69	56	76	69	71	67	85	82
	Males	104	23	5	1	4	137	14	10	17	35	30	37	33	35	34	42	47	45	54
	Females	63	16	7	6	3	95	3	9	15	39	26	32	23	41	35	29	20	40	28
Vermillion	Total	62	11	5	1	2	81	16	7	5	11	11	11	7	9	11	14	12	14	20
	Males	35	7	3	1	2	46	7	5	3	6	5	5	5	5	8	6	5	10	9
	Females	27	4	3	1	1	35	9	2	2	5	6	2	4	6	6	8	7	4	11
Vigo	Total	179	48	17	6	8	268	36	21	30	89	59	61	54	73	67	84	79	102	59
	Males	102	22	10	4	4	142	21	9	16	24	24	33	28	38	43	44	48	57	29
	Females	77	26	7	2	4	116	15	12	14	35	35	28	26	35	24	40	31	45	31
Wabash	Total	26	8	2	5	2	41	4	4	7	11	13	11	7	11	10	13	24	36	26
	Males	18	3	1	3	1	25	3	3	4	7	4	2	4	7	4	8	12	16	16
	Females	8	5	1	2	1	16	1	1	3	4	7	9	3	4	6	5	12	20	10
Warren	Total	17	2	2	1	1	19	4	2	1	3	3	4	4	7	2	2	3	12	9
	Males	8	1	1	1	1	9	2	2	1	1	1	3	3	3	2	1	1	9	3
	Females	9	1	1	1	1	10	2	1	1	2	2	1	1	4	1	1	2	3	6
Warrick	Total	33	3	3	7	1	47	6	7	15	6	6	4	4	6	1	10	15	19	15
	Males	17	1	3	4	1	25	2	2	8	3	4	1	1	4	1	7	6	9	10
	Females	16	2	1	3	1	22	4	5	7	3	2	3	3	2	3	4	9	12	5

TABLE No. 3—Continued.

COUNTIES	Sex	Under 1	1	2	3	4	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69
Pulaski.....	Total.....	25	6	2	1	1	35	.....	1	3	1	2	2	.....	3	4	5	10	11	13
	Males.....	14	2	1	1	.....	18	.....	.....	3	1	.....	1	.....	.....	.....	5	5	7	7
	Females.....	11	4	1	.....	1	17	.....	1	.....	.....	2	1	.....	2	4	4	5	4	6
Putnam.....	Total.....	19	3	1	4	1	28	2	3	4	9	8	9	11	6	5	9	13	28	25
	Males.....	12	3	1	1	1	18	2	2	2	3	3	4	7	4	3	4	9	18	14
	Females.....	7	.....	.....	3	.....	10	.....	1	2	6	4	5	4	2	2	5	4	10	11
Randolph.....	Total.....	46	5	4	5	2	82	6	8	12	7	3	9	14	11	10	9	20	21	24
	Males.....	28	2	2	5	1	38	3	5	5	.....	.....	5	4	4	4	4	14	12	16
	Females.....	18	3	2	.....	1	24	3	3	7	7	3	4	10	8	6	5	6	9	18
Ripley.....	Total.....	23	6	5	2	2	38	1	2	4	9	3	7	8	9	6	12	13	17	16
	Males.....	12	3	4	2	.....	21	1	2	3	4	1	5	5	5	1	9	5	14	9
	Females.....	11	3	1	.....	2	17	.....	.....	1	5	2	2	2	4	5	3	8	3	7
Rush.....	Total.....	25	5	4	1	2	37	6	.....	5	8	9	8	8	5	7	10	21	11	21
	Males.....	14	1	3	.....	1	19	5	.....	3	3	2	5	5	5	2	6	11	6	14
	Females.....	11	4	1	1	1	18	1	.....	2	5	7	3	3	3	5	4	10	5	7
Scott.....	Total.....	17	2	2	2	2	25	1	1	.....	2	4	4	1	.....	4	5	5	6	5
	Males.....	9	.....	1	1	.....	11	.....	1	.....	.....	.....	2	.....	.....	2	2	2	3	3
	Females.....	8	2	1	1	2	14	1	.....	.....	2	4	2	1	.....	2	3	3	3	2
Shelby.....	Total.....	42	6	6	2	3	39	6	5	10	13	13	7	9	15	19	24	24	38	32
	Males.....	21	4	4	2	3	32	2	4	8	8	8	3	3	8	10	13	18	28	19
	Females.....	21	2	4	.....	.....	27	4	1	5	5	5	4	6	7	9	12	11	20	14
Spencer.....	Total.....	32	5	1	3	2	43	5	3	6	10	6	11	4	16	4	8	14	14	12
	Males.....	25	2	1	.....	.....	29	4	1	4	5	3	8	3	3	9	7	8	6	5
	Females.....	7	3	.....	3	1	14	1	2	2	5	3	3	1	7	1	1	6	8	7
Starks.....	Total.....	18	4	2	.....	.....	24	3	1	5	5	1	3	7	4	6	4	6	8	7
	Males.....	10	3	2	.....	.....	15	.....	.....	2	3	.....	1	4	3	5	3	4	6	6
	Females.....	8	1	.....	.....	.....	9	3	1	3	2	1	2	3	1	1	1	2	2	1
Steuben.....	Total.....	21	.....	1	.....	.....	22	1	.....	4	4	7	1	5	2	10	10	12	13	14
	Males.....	10	.....	.....	.....	.....	10	1	.....	.....	4	4	1	3	2	6	7	8	7	7
	Females.....	11	.....	1	.....	.....	12	.....	.....	2	.....	3	.....	2	4	4	3	5	5	.....

St. Joseph.	Total.	216	36	12	7	4	275	30	23	20	25	44	43	37	51	56	56	74	74
	Males	144	24	8	5	3	184	14	15	11	15	22	20	21	29	34	34	48	48
	Females	72	12	4	2	1	91	16	8	9	10	22	23	16	22	21	22	40	35
Sullivan.	Total.	74	15	4	3	5	101	15	6	10	9	15	7	20	12	5	7	19	20
	Males	46	9	2	1	4	62	9	4	6	1	7	5	12	7	2	6	7	8
	Females	28	6	2	2	1	39	6	2	4	8	8	2	8	5	3	2	12	13
Switzerland.	Total.	14	2	1			17	1		1	3		3	2	5	5	12	4	9
	Males	9	2	1			12			1	2		3	1	2	3	6	3	6
	Females	5					5	1	1		1				3	2	6	1	8
Tippecanoe.	Total.	60	5	3	2	2	72	9	9	8	26	25	24	22	23	36	32	47	57
	Males	31	2	1	2	2	38	6	5	5	14	15	12	7	11	24	14	24	25
	Females	29	3	2			34	3	4	3	12	10	12	15	12	12	18	23	32
Tipton.	Total.	37	7	1		1	49	3	5	4	3	5	7	5	4	1	13	13	19
	Males	23	3	1			27	3	3	2	2	2	3	3	3	1	8	6	9
	Females	14	4			1	19	2	2	2	1	3	4	2	1		5	7	10
Union.	Total.	7		2		1	10			1	1	1	1	2	4	3	4	3	8
	Males			1			6			1	1				2	2	1	2	3
	Females	2		1		4			1			1	1	2	2	2	3	1	5
Vanderburgh.	Total.	157	39	12	7	7	232	17	19	32	74	66	69	56	76	69	71	67	85
	Males	104	23	5	1	4	137	14	10	17	35	30	37	33	35	34	42	47	45
	Females	63	16	7	6	3	95	3	9	15	39	26	32	23	41	35	29	20	40
Vermillion.	Total.	62	11	5	1	2	81	16	7	5	11	11	7	9	11	14	11	12	14
	Males	35	7	2		2	46	7	5	3	6	5	5	5	5	8	6	5	10
	Females	27	4	3	1		35	9	2	2	5	6	2	4	6	6	5	7	11
Vigo.	Total.	179	48	17	6	8	268	36	21	30	59	59	61	54	73	67	84	79	102
	Males	102	22	10	4	4	142	9	16	24	24	24	23	28	38	43	44	48	57
	Females	77	26	7	2	4	116	15	12	14	35	35	38	26	35	24	40	31	45
Wabash.	Total.	26	8	2	5		41	4		7	11	13	11	7	11	10	13	24	36
	Males	18	3	1	3		25	3	4	7	4	7	6	2	4	7	4	8	12
	Females	8	5	1	2		16	1		3	7	9	9	3	4	6	5	12	20
Warren.	Total.	17	2				19	4	2	1	3	3	4	4	7	2	2	3	12
	Males	8	1				9	2	2		1	1	3	3	3	2	1	1	9
	Females	9	1				10	2		1	2	2	1	1	4		1	2	3
Warrick.	Total.	23	3	3	7	1	47	6	7	15	6	6	4	6	1	10	10	15	19
	Males	17	1	1	3	4	25	2	2	8	3	4	1	4	1	7	6	9	12
	Females	16	2		3	1	22	4	5	7	3	2	3	2	3	3	4	6	7

TABLE No. 3—Continued.

COUNTIES	Sex	Under 1	1	2	3	4	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69
Pulaski.....	Total.....	25	6	2	1	1	35	.....	1	3	1	2	2	2	3	4	5	10	11	13
	Males.....	14	2	1	1	.....	18	.....	.....	3	1	.....	1	.....	2	.....	4	5	7	7
	Females.....	11	4	1	.....	1	17	.....	1	.....	.....	2	1	.....	1	.....	1	5	4	6
Putnam.....	Total.....	19	3	1	4	1	28	2	3	4	9	8	9	11	6	5	9	13	28	25
	Males.....	12	3	1	1	1	18	2	2	2	3	3	4	7	3	4	4	4	18	14
	Females.....	7	.....	.....	3	.....	10	.....	1	2	6	4	5	4	2	2	5	4	10	11
Randolph.....	Total.....	46	5	4	5	2	62	6	8	12	7	3	9	14	11	10	9	20	21	24
	Males.....	28	2	2	5	1	38	3	5	5	.....	.....	5	4	3	4	4	4	12	16
	Females.....	18	3	2	.....	1	24	3	3	7	7	3	4	10	8	6	5	6	9	18
Ripley.....	Total.....	23	6	5	2	2	38	1	2	4	9	3	7	8	9	6	12	13	17	16
	Males.....	12	3	4	2	.....	21	1	2	3	4	1	5	5	5	1	9	5	14	9
	Females.....	11	3	1	.....	2	17	.....	.....	1	5	2	2	2	4	5	3	8	3	7
Rush.....	Total.....	25	5	4	1	2	37	6	.....	5	8	9	8	8	5	7	10	21	11	21
	Males.....	14	1	3	.....	1	19	5	.....	3	3	3	5	5	3	2	6	11	6	14
	Females.....	11	4	1	1	1	18	1	.....	2	5	7	3	3	3	5	4	10	5	7
Scott.....	Total.....	17	2	2	2	2	25	1	1	.....	2	4	4	1	.....	4	5	5	6	5
	Males.....	9	.....	1	1	.....	11	.....	1	.....	.....	.....	2	.....	.....	2	2	2	3	3
	Females.....	8	2	1	1	2	14	1	.....	.....	2	4	2	1	.....	2	3	3	3	2
Shelby.....	Total.....	42	6	4	2	3	39	6	5	10	13	13	7	9	15	19	24	24	38	32
	Males.....	21	4	2	2	3	32	2	4	5	8	8	3	8	8	10	13	13	18	18
	Females.....	21	2	4	.....	.....	27	4	1	5	5	5	4	6	7	9	12	11	20	14
Spencer.....	Total.....	32	5	1	3	2	43	5	3	6	10	6	11	4	16	4	8	14	14	12
	Males.....	25	3	1	.....	.....	29	4	1	4	5	3	8	3	3	9	7	8	8	5
	Females.....	7	.....	.....	3	1	14	1	2	2	5	3	3	1	7	1	1	6	6	7
Starks.....	Total.....	18	4	2	.....	.....	24	3	1	5	5	1	3	7	4	6	4	6	8	7
	Males.....	10	3	2	.....	.....	15	.....	.....	2	3	.....	1	4	3	5	3	4	6	6
	Females.....	8	1	.....	.....	.....	9	3	1	3	2	1	2	3	1	1	1	2	2	1
Stenska.....	Total.....	21	.....	1	.....	.....	22	1	.....	4	4	7	1	5	3	10	10	12	13	14
	Males.....	10	.....	.....	.....	.....	12	1	.....	2	4	4	.....	2	2	6	7	8	7	7
	Females.....	11	.....	1	.....	.....	10	.....	.....	2	.....	.....	.....	3	1	4	3	5	6	7

St. Joseph	Total	216	38	12	7	4	275	30	23	25	44	43	37	56	74	74	81
	Males	144	24	8	5	3	184	11	15	15	22	20	21	56	34	48	46
	Females	72	12	4	2	1	91	9	8	10	22	23	16	22	40	26	35
Sullivan	Total	74	15	4	3	5	101	10	6	9	15	7	20	12	7	19	29
	Males	46	9	2	1	4	63	6	4	9	17	5	12	5	7	8	16
	Females	28	6	2	2	1	38	4	2	8	8	2	8	3	2	12	13
Switzerland	Total	14	2	1			17	1		3		3	2	5	4	9	14
	Males	9	2	1			12			2		3	1	2	6	3	6
	Females	5					5	1		1			1	3	6	1	8
Tippecanoe	Total	60	5	3	2	2	72	9	9	26	25	24	22	38	32	47	61
	Males	31	2	1	2	2	38	5	5	14	15	12	7	11	24	24	33
	Females	29	3	2			34	4	3	12	10	12	15	12	18	23	28
Tipton	Total	37	7	1		1	46	3	5	3	5	7	5	4	1	13	19
	Males	23	3	1			27	3	2	2	3	3	3	1	8	6	9
	Females	14	4			1	19	2	2	1	3	4	2	1	5	7	10
Union	Total	7		2		1	10	1		1	1	1	2	4	3	8	11
	Males	5		1			6			1				2	1	3	2
	Females	2		1		1	4	1			1	1	2	2	2	5	9
Vanderburgh	Total	167	39	12	7	7	232	32	19	74	56	69	56	76	69	67	85
	Males	104	23	5	1	4	137	14	10	35	30	37	33	35	34	42	47
	Females	63	16	7	6	3	95	15	9	39	26	32	23	41	35	29	40
Vermillion	Total	62	11	5	1	2	81	16	7	11	11	7	9	11	14	12	20
	Males	35	7	2	2	2	46	7	5	3	6	5	5	5	8	6	10
	Females	27	4	3	1		35	9	2	5	6	2	4	6	6	7	11
Vigo	Total	179	48	17	6	8	258	36	21	59	59	61	54	73	67	84	102
	Males	102	22	10	4	4	142	21	9	24	24	33	28	38	43	44	57
	Females	77	26	7	2	4	116	15	12	35	35	28	26	35	24	40	45
Wabash	Total	26	8	2	5		41	4		7	13	11	7	11	10	13	24
	Males	18	3	1	3		25	3		4	7	6	2	4	7	4	8
	Females	8	5	1	2		16	1		3	4	9	3	4	6	5	12
Warren	Total	17	2				19	4	2	3	3	4	4	7	2	3	12
	Males	8					9	2	2	1	1	3	3	3	2	1	9
	Females	9	1				10	2		2	2	1	1	1	1	2	3
Warrick	Total	33	3	3	7	1	47	6	7	6	6	4	6	1	10	15	19
	Males	17	1	3	4		25	2	2	3	4	1	4	1	7	6	12
	Females	16	2		3	1	22	4	5	3	2	3	2	3	3	9	7

TABLE No. 3—Continued.

Deaths in Indiana by Months, Counties, Ages, Sex, Color, Nationality and Conjugal Conditions for Year 1915.

COUNTIES	Sex	70 to 74	75 to 79	80 to 84	85 to 89	90 to 94	95 and Over	Unknown	White	Colored	American	Foreign	Not Reported	Single	Married	Widowed or Divorced	Not Reported	Total	Non-resi-
Adams	Total	18	29	22	9	3			233		207	26		66	104	61	2	233	1
	Males	12	15	13	2	2			129		116	13		43	61	24	1	129	
	Females	6	14	9	7	1			104		91	13		23	43	37	1	104	
Allen	Total	123	81	67	34	11	2	2	1,168	10	970	204	4	383	485	309	2	1,178	113
	Males	65	37	32	16	3	1	1	648	7	543	109	3	236	294	123	2	655	
	Females	58	44	35	18	8	1	1	520	3	427	95	1	146	191	186		523	
Bartholomew	Total	38	24	27	13	1	1		317	3	292	28		91	146	83		320	1
	Males	25	10	17	7	1	1		178	2	160	20		54	91	35		180	
	Females	13	14	10	6				139	1	132	8		37	55	48		140	
Benton	Total	12	13	7	6	2		1	105	3	92	14	2	35	41	30	2	108	1
	Males	6	7	4	2	1		1	63	2	53	9	2	26	24	12	2	64	
	Females	6	6	3	4	1			43	1	39	5		9	17	18		44	
Blackford	Total	10	10	13	5	4			165		162	3		65	63	37		165	
	Males	5	6	8	3	3			96		94	2		36	36	19		96	
	Females	5	4	5	2	1			69		68	1		24	27	18		69	
Boone	Total	41	25	31	9	6			276		270	6	1	91	114	71		276	3
	Males	24	13	11	5	3			140		136	3	1	45	70	25		140	
	Females	17	12	20	4	3			136		134	2		46	44	46		136	
Brown	Total	6	4	8	1		1		72		69	3		28	31	15		72	
	Males	4	1	8			1		45		43	3		17	17	10		45	
	Females	2	3		1				27		27			8	14	5		27	
Carroll	Total	20	22	9	9	2		1	189		184	4	1	65	68	55	1	189	1
	Males	9	15	4	5	1		1	103		99	3	1	37	38	27	1	103	
	Females	11	7	5	4	1			86		85	1		28	30	28		86	
Cass	Total	46	36	42	20	4	3	1	564	6	499	65	6	180	253	149		570	106
	Males	26	22	23	7	2	1		313	5	276	37	5	104	145	61	9	313	
	Females	20	14	19	13	2	2	1	251	1	223	28	1	56	107	88	1	262	

TABLE No. 3—Continued.

COUNTIES	Sex	Under 1	1	2	3	4	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69
Washington.....	Total.....	20	5	4	3	5	37	6	1	8	7	5	5	5	8	5	8	8	12	10
	Males.....	13	4	4	3	2	26	4	1	5	3	1	1	2	4	3	6	3	9	6
	Females.....	7	1	...	...	3	11	2	...	3	4	4	4	3	4	2	2	5	3	4
Wayne.....	Total.....	72	11	1	2	4	90	7	12	9	14	23	19	32	24	29	44	45	56	46
	Males.....	41	5	1	2	4	53	1	5	6	8	9	10	15	13	16	26	27	34	25
	Females.....	31	6	...	...	...	37	6	7	3	6	14	9	17	11	13	18	18	22	21
Wells.....	Total.....	29	6	1	2	...	38	8	5	7	2	7	3	8	5	7	7	9	19	18
	Males.....	18	3	1	2	...	24	6	2	5	...	2	2	5	3	3	3	4	9	9
	Females.....	11	3	...	...	...	14	2	3	2	2	4	1	3	2	4	4	5	10	9
White.....	Total.....	20	5	2	...	...	27	6	3	4	2	2	12	5	5	6	7	10	9	19
	Males.....	12	3	1	...	...	16	1	...	2	1	1	1	4	2	3	6	5	2	12
	Females.....	8	2	1	...	...	11	5	3	2	1	1	11	3	3	3	1	5	7	7
Whitely.....	Total.....	21	3	1	...	...	25	...	3	3	6	5	7	6	9	4	14	6	17	20
	Males.....	12	1	...	...	...	13	...	2	1	5	2	3	3	4	3	7	1	13	13
	Females.....	9	2	1	...	...	12	...	1	2	1	3	4	3	5	1	7	5	4	7
Grand Total.....	Total.....	4,447	871	410	257	188	6,673	653	512	840	1,173	1,200	1,193	1,284	1,414	1,447	1,892	2,034	2,544	2,686
	Males.....	2,576	464	234	140	97	3,811	381	280	422	596	1,597	1,599	1,673	1,736	1,808	2,178	2,447	3,007	3,157
	Females.....	2,071	407	176	117	91	2,862	302	232	418	577	603	594	611	678	639	814	887	1,106	1,179

TABLE No. 3—Continued.

Deaths in Indiana by Months, Counties, Ages, Sex, Color, Nationality and Conjugal Conditions for Year 1915.

COUNTIES	Sex	70 to 74	75 to 79	80 to 84	85 to 89	90 to 94	95 and Over	Unknown	White	Colored	American	Foreign	Not Reported	Single	Married	Widowed or Divorced	Not Reported	Total	Non-resi-
Adams	Total	18	29	22	9	3			223		207	26		66	104	61	2	223	1
	Males	12	15	13	2	2			129		116	13		43	61	24	1	129	
	Females	6	14	9	7	1			104		91	13		23	43	37	1	104	
Allen	Total	122	81	67	34	11	2	2	1,168	10	970	204	4	332	435	309	2	1,178	113
	Males	65	37	32	16	3	1	1	648	7	543	109	3	236	294	123	2	655	
	Females	58	44	35	18	8	1	1	520	3	427	95	1	146	191	186		523	
Bartholomew	Total	38	94	27	13	1	1		317	3	292	28		91	146	83		320	1
	Males	25	10	17	7	1	1		178	2	160	20		54	91	36		180	
	Females	13	14	10	6				139	1	132	8		37	55	48		140	
Benton	Total	12	13	7	6	2		1	105	3	92	14	2	35	41	30	2	108	1
	Males	6	7	4	2	1		1	62	2	53	9	2	26	24	12	2	64	
	Females	6	6	3	4	1			43	1	39	5		9	17	18		44	
Blackford	Total	10	10	13	5	4			165		162	3		65	63	37		165	
	Males	5	6	8	3	3			96		94	2		41	36	19		96	
	Females	5	4	5	2	1			69		68	1		24	27	18		69	
Boone	Total	41	25	31	9	6			276		270	5	1	91	114	71		276	3
	Males	24	13	11	5	3			146		136	3	1	45	70	26		140	
	Females	17	12	20	4	3			136		134	2		46	44	46		136	
Brown	Total	6	4	8	1		1		72		69	3		26	31	15		72	
	Males	4	1	8			1		45		37	3		18	17	10		45	
	Females	2	3						27		32			8	14	5		27	
Carroll	Total	20	22	9	9	2		1	189		184	4	1	65	68	55	1	189	1
	Males	9	15	4	5	1		1	103		99	3	1	37	38	27	1	103	
	Females	11	7	5	4	1			86		85	1		28	30	28		86	
Cass	Total	46	36	42	20	4	3	1	564	6	499	65	6	160	253	149	9	570	106
	Males	26	22	23	7	2	1	1	313	5	276	37	5	104	145	61	8	318	
	Females	20	14	19	13	2	2	1	251	1	223	28	1	56	107	88	1	262	

TABLE No. 3—Continued.

COUNTIES	Sex		70 to 74	75 to 79	80 to 84	85 to 89	90 to 94	95 and Over	Unknown	White	Colored	American	Foreign	Not Reported	Single	Married	Widowed	Not Reported	Total	Non-residents
Clark	Total	38	31	18	9	5	5	5	...	302	43	319	24	2	136	118	80	2	345	3
	Males	21	14	7	3	2	2	2	...	152	23	160	14	1	83	68	33	1	175	...
	Females	17	17	11	6	3	3	3	...	150	20	159	10	1	53	50	47	1	170	...
Clay	Total	39	34	26	14	5	2	2	...	364	3	335	31	1	115	165	87	...	367	3
	Males	14	10	9	7	1	1	1	...	180	2	160	22	...	63	97	24	...	182	...
	Females	25	15	17	7	4	2	2	...	184	1	175	9	1	52	68	63	...	185	...
Clinton	Total	35	29	20	9	5	2	2	...	317	...	316	2	...	85	151	81	...	317	4
	Males	15	16	16	5	2	2	2	...	162	...	160	2	...	48	80	24	...	162	...
	Females	21	11	13	4	3	3	3	...	155	...	155	...	...	37	62	57	...	155	...
Crawford	Total	9	15	11	2	1	1	1	...	131	...	128	3	...	43	56	32	...	131	...
	Males	4	9	7	1	1	1	1	...	72	...	70	2	...	24	27	11	...	72	...
	Females	5	6	4	1	1	1	1	...	59	...	58	1	...	19	29	21	...	59	...
Davies	Total	29	25	17	10	2	2	2	...	295	1	279	15	2	115	121	59	1	296	1
	Males	16	16	8	7	3	2	2	...	168	...	154	12	2	49	76	22	1	168	...
	Females	13	9	9	3	3	2	2	...	127	1	125	3	...	46	45	37	...	128	...
Dearborn	Total	28	23	15	13	7	3	3	...	255	2	223	34	...	76	104	77	...	257	...
	Males	15	7	8	7	3	2	2	...	136	2	121	17	...	46	57	35	...	138	...
	Females	13	16	7	6	4	4	4	...	119	...	102	17	...	30	47	42	...	119	...
Deatur	Total	30	27	22	10	4	1	1	...	227	1	207	20	1	58	92	76	2	228	2
	Males	15	17	12	4	2	2	2	...	123	1	112	11	1	38	52	22	2	124	...
	Females	15	10	10	6	2	1	1	...	104	...	95	9	...	20	40	44	...	104	...
Detailb	Total	31	38	21	10	6	3	3	...	310	...	293	16	1	81	142	85	2	310	9
	Males	22	19	9	6	3	3	3	...	169	...	137	11	1	51	81	35	2	169	...
	Females	9	19	12	4	3	3	3	...	141	...	156	5	...	30	61	50	...	141	...
Delaware	Total	61	48	34	12	4	4	4	...	597	25	601	21	...	206	273	141	2	622	7
	Males	33	28	18	7	3	3	3	...	320	15	324	11	...	119	185	66	2	335	...
	Females	28	20	16	5	1	1	1	...	277	10	277	10	...	87	115	85	...	287	...
Dubois	Total	32	17	13	8	2	1	1	...	234	...	194	40	...	90	94	49	1	234	1
	Males	23	11	8	4	2	2	2	...	127	...	103	24	...	50	54	23	...	127	...
	Females	9	6	5	4	4	4	4	...	107	...	91	16	...	40	40	26	1	107	...

Elbert.....	Total.....	55	73	44	30	6	2	599	1	543	44	3	154	261	180	5	600	13
	Males.....	29	37	13	10	2	2	302	1	277	23	3	87	137	75	4	303	.....
	Females.....	26	36	31	20	4	3	297	.....	276	21	.....	67	124	105	1	297	.....
Fayette.....	Total.....	22	19	13	6	.....	1	106	7	105	8	.....	71	78	54	.....	203	2
	Males.....	13	8	3	3	.....	.....	104	3	105	2	.....	53	46	23	.....	107	.....
	Females.....	8	11	8	3	.....	.....	92	4	90	6	.....	33	32	31	.....	96	.....
Floyd.....	Total.....	38	35	32	22	3	1	395	28	383	60	.....	135	188	100	.....	423	10
	Males.....	18	15	20	10	1	1	303	16	189	32	.....	73	114	34	.....	221	.....
	Females.....	20	10	12	12	2	.....	190	12	174	28	.....	62	74	66	.....	202	.....
Fountain.....	Total.....	21	27	25	8	4	1	223	.....	222	1	.....	82	94	67	.....	223	1
	Males.....	10	13	17	7	2	1	124	.....	124	.....	.....	37	56	31	.....	124	.....
	Females.....	11	14	8	1	2	.....	99	.....	98	1	.....	25	38	36	.....	99	.....
Franklin.....	Total.....	21	26	13	9	2	2	196	.....	180	16	.....	72	72	52	.....	196	.....
	Males.....	10	9	4	4	1	2	96	.....	91	5	.....	38	38	15	.....	96	.....
	Females.....	11	17	9	5	1	.....	100	.....	89	11	.....	29	34	37	.....	100	.....
Fulton.....	Total.....	17	13	17	10	1	1	205	.....	199	5	1	58	103	44	.....	205	7
	Males.....	7	8	8	5	1	.....	111	.....	107	2	1	33	59	19	.....	111	.....
	Females.....	10	5	9	5	.....	.....	94	.....	92	2	.....	25	44	25	.....	94	.....
Gibson.....	Total.....	31	30	20	11	6	1	336	23	345	14	.....	139	132	88	.....	359	.....
	Males.....	21	11	7	7	2	1	179	9	178	10	.....	90	90	28	.....	188	.....
	Females.....	10	19	13	4	4	1	157	14	167	4	.....	59	52	60	.....	171	.....
Grant.....	Total.....	118	96	66	16	7	2	782	32	782	31	1	243	315	254	2	814	44
	Males.....	94	69	43	7	1	.....	463	14	460	25	1	154	176	154	2	486	.....
	Females.....	24	27	23	9	6	2	314	18	322	6	.....	89	139	100	.....	328	.....
Greene.....	Total.....	33	25	20	7	2	1	386	.....	375	11	.....	154	157	75	.....	386	.....
	Males.....	16	13	10	4	2	.....	214	.....	204	10	.....	97	91	29	.....	214	.....
	Females.....	17	7	10	3	1	1	172	.....	171	1	.....	57	66	49	.....	172	.....
Hamilton.....	Total.....	34	36	22	8	2	2	318	5	311	12	.....	104	138	81	.....	323	5
	Males.....	19	18	9	4	1	2	161	3	153	8	.....	61	74	28	.....	163	.....
	Females.....	15	18	13	4	1	.....	157	3	156	4	.....	43	64	53	.....	160	.....
Hancock.....	Total.....	15	19	21	12	3	.....	211	2	211	2	.....	53	101	59	.....	213	1
	Males.....	13	12	11	7	2	.....	120	2	121	1	.....	30	64	22	.....	122	.....
	Females.....	2	7	10	5	1	.....	91	.....	90	1	.....	23	36	36	.....	91	.....
Harrison.....	Total.....	31	20	12	8	2	1	207	4	203	7	1	68	88	53	2	211	.....
	Males.....	17	11	6	3	2	.....	96	.....	92	7	1	33	45	21	1	100	.....
	Females.....	14	9	6	5	1	1	109	2	111	.....	.....	35	43	32	.....	111	.....

TABLE No. 3—Continued.

COUNTIES	Sex	70 to 74	75 to 79	80 to 84	85 to 89	90 to 94	95 and Over	Unknown	White	Colored	American	Foreign	Not Reported	Single	Married	Widowed or Divorced	Not Reported	Total	Non- resident
Handricks.....	Total.....	32	27	21	14	5	1	.....	249	5	251	3	.....	72	109	73	.....	254	.....
	Males.....	17	19	12	5	1	.....	.....	131	3	133	.....	.....	40	64	30	.....	134	.....
	Females.....	15	8	9	9	4	1	.....	118	2	118	2	.....	32	45	43	.....	120	.....
Henry.....	Total.....	39	39	27	22	6	2	.....	414	6	411	8	1	143	170	106	1	420	17
	Males.....	20	17	12	13	3	1	.....	230	4	229	4	1	98	93	42	1	224	.....
	Females.....	19	22	15	10	3	1	.....	184	2	182	4	.....	45	77	64	.....	186	.....
Howard.....	Total.....	31	28	29	9	6	1	.....	402	16	407	11	.....	143	175	100	.....	418	10
	Males.....	16	14	12	4	1	.....	.....	209	8	208	9	.....	79	104	34	.....	217	.....
	Females.....	15	14	17	5	5	1	.....	193	8	199	2	.....	64	71	66	.....	201	.....
Huntington.....	Total.....	38	36	26	12	3	1	.....	332	1	321	13	.....	79	166	89	.....	324	1
	Males.....	24	16	13	7	2	.....	.....	170	1	164	7	.....	39	99	33	.....	171	.....
	Females.....	14	20	13	5	1	1	.....	162	.....	157	6	.....	40	67	56	.....	163	.....
Jackson.....	Total.....	22	26	12	10	3	2	.....	291	4	279	16	.....	115	111	68	1	295	3
	Males.....	14	17	7	5	2	1	.....	153	2	144	11	.....	64	63	27	1	155	.....
	Females.....	8	9	5	5	1	.....	.....	138	2	135	5	.....	51	48	41	.....	140	.....
Jasper.....	Total.....	13	9	13	8	1	.....	.....	118	.....	106	12	.....	43	46	29	.....	118	.....
	Males.....	7	6	8	5	.....	.....	.....	65	.....	58	7	.....	27	29	9	.....	65	.....
	Females.....	6	3	5	3	1	.....	.....	53	.....	48	5	.....	16	17	20	.....	53	.....
Jay.....	Total.....	28	28	25	4	6	.....	.....	272	3	263	12	.....	91	107	77	.....	275	2
	Males.....	11	13	12	3	3	.....	.....	132	2	127	7	.....	50	53	31	.....	134	.....
	Females.....	17	15	13	1	3	.....	.....	140	1	136	5	.....	41	54	46	.....	141	.....
Jefferson.....	Total.....	36	35	31	12	3	.....	.....	381	10	374	16	1	131	168	90	2	391	65
	Males.....	17	17	13	4	1	.....	.....	181	7	182	5	.....	65	90	33	1	188	.....
	Females.....	19	19	18	8	2	.....	.....	200	3	192	11	.....	66	78	58	.....	203	.....
Jennings.....	Total.....	21	18	15	12	3	1	.....	187	6	177	15	.....	58	81	53	1	193	.....
	Males.....	10	11	5	6	1	.....	.....	93	3	86	8	.....	33	41	26	.....	98	.....
	Females.....	11	7	10	6	2	1	.....	94	4	91	7	.....	25	40	23	.....	98	.....
Johnson.....	Total.....	22	27	36	13	4	3	.....	244	6	245	5	.....	72	92	86	.....	260	.....
	Males.....	12	14	15	6	3	1	.....	117	3	119	1	.....	39	51	30	.....	120	.....
	Females.....	10	13	21	7	1	2	.....	127	3	126	4	.....	33	41	56	.....	130	.....

Huntington; 1 Indian, Female.

Knox.....	Total.....	39	32	20	9	5	1	494	11	477	29	1	311	194	98	2	507	8
	Males.....	19	16	10	5	2	1	273	6	258	9	1	132	107	38	2	279	.....
	Females.....	20	16	10	4	3	.....	223	5	219	20	.....	79	89	60	.....	228	.....
Kosciusko.....	Total.....	36	29	29	14	3	.....	308	2	304	6	.....	92	131	87	.....	310	1
	Males.....	18	15	14	7	1	.....	169	1	165	5	.....	62	76	32	.....	170	.....
	Females.....	18	14	15	7	2	.....	139	1	139	1	.....	30	55	55	.....	140	.....
Lagrange.....	Total.....	18	21	18	11	2	1	192	.....	189	3	.....	46	94	51	1	192	1
	Males.....	8	14	9	7	.....	.....	97	.....	96	1	.....	26	50	21	.....	97	.....
	Females.....	10	7	9	4	2	1	95	.....	93	2	.....	20	44	30	1	95	.....
Lake.....	Total.....	44	32	33	21	5	4	1,450	19	1,129	332	8	853	445	157	14	1,469	83
	Males.....	25	11	15	9	4	3	886	12	669	222	7	638	280	77	13	898	.....
	Females.....	19	21	18	12	1	1	564	7	460	110	1	325	165	80	1	571	.....
Laporte.....	Total.....	57	40	38	17	6	2	568	4	417	155	.....	208	224	136	4	572	18
	Males.....	32	17	20	8	2	1	324	3	239	88	.....	143	131	61	2	337	.....
	Females.....	25	23	18	9	4	1	244	1	178	67	.....	65	93	85	2	245	.....
Lawrence.....	Total.....	29	21	16	9	5	.....	371	9	374	6	.....	146	155	79	.....	380	2
	Males.....	13	14	8	6	2	.....	184	2	184	2	.....	77	78	31	.....	186	.....
	Females.....	16	7	8	3	3	.....	187	7	190	4	.....	69	77	48	.....	194	.....
Madison.....	Total.....	77	46	41	23	5	.....	760	6	723	30	3	227	371	165	3	766	10
	Males.....	40	28	19	12	3	.....	401	2	380	20	3	130	198	72	3	403	.....
	Females.....	37	18	22	11	2	.....	359	4	343	10	.....	97	173	93	.....	363	.....
Marion.....	Total.....	305	276	189	74	26	7	3,803	583	3,871	502	13	1,454	1,889	1,027	16	4,386	262
	Males.....	133	146	93	32	14	4	2,105	303	2,132	269	.....	784	1,117	415	12	2,408	.....
	Females.....	172	130	96	42	12	3	1,698	280	1,739	233	6	690	772	612	4	1,978	.....
Marshall.....	Total.....	34	24	26	8	5	1	281	2	283	17	4	81	132	66	4	283	3
	Males.....	18	14	17	5	2	1	149	2	135	13	3	48	77	23	3	151	.....
	Females.....	16	10	9	3	3	.....	132	.....	127	4	1	33	55	43	1	132	.....
Martin.....	Total.....	8	14	5	5	2	.....	119	.....	116	3	.....	53	40	27	.....	119	.....
	Males.....	3	7	4	1	.....	.....	61	.....	60	1	.....	32	22	7	.....	61	.....
	Females.....	5	7	1	4	2	.....	58	.....	56	2	.....	20	18	20	.....	58	.....
Miami.....	Total.....	50	35	26	9	2	1	343	4	321	27	.....	90	156	100	2	348	7
	Males.....	23	18	15	4	1	1	194	3	153	15	.....	60	98	38	2	198	.....
	Females.....	27	17	11	5	1	.....	149	1	138	12	.....	30	58	62	.....	150	.....
Monroe.....	Total.....	23	21	14	8	4	.....	280	7	278	9	.....	112	109	66	.....	287	.....
	Males.....	15	13	3	4	1	.....	149	3	148	4	.....	66	63	23	.....	152	.....
	Females.....	8	8	11	4	3	.....	131	4	130	5	.....	46	46	43	.....	135	.....

Miami, Indian Male.

TABLE No. 3—Continued.

COUNTIES	Sex	70 to 74	75 to 79	80 to 84	85 to 89	90 to 94	95 and Over	Unknown	White	Colored	American	Foreign	Not Reported	Single	Married	Widowed or Divorced	Not Reported	Total	Non-residents
Montgomery	Total	48	45	34	20	6	1	...	405	7	407	4	1	116	167	129	...	412	4
	Males	28	25	16	8	3	...	...	207	3	206	3	1	58	104	48	...	210	...
Morgan	Females	20	20	18	12	3	1	...	198	4	201	1	...	58	63	81	...	202	...
	Total	30	20	17	7	2	1	1	256	...	250	5	1	85	97	73	1	256	5
Newton	Males	15	8	6	5	1	1	1	139	...	136	2	1	27	54	26	1	139	...
	Females	15	12	11	2	1	...	...	117	...	114	3	...	27	43	47	...	117	...
Noble	Total	4	14	6	2	2	...	...	84	...	79	5	...	29	38	17	...	84	...
	Males	3	10	3	2	...	...	...	50	...	45	5	...	21	22	7	...	50	...
Ohio	Females	1	4	3	...	2	...	...	34	...	34	...	...	8	16	10	...	34	...
	Total	44	34	21	17	7	1	...	316	1	290	26	1	75	137	102	3	317	4
Orange	Males	21	12	16	6	6	...	...	169	1	157	12	1	48	78	41	3	170	...
	Females	23	22	5	11	1	1	...	147	...	133	14	...	27	59	61	...	147	...
Owen	Total	1	5	4	1	1	...	...	39	4	41	2	...	12	19	12	...	43	...
	Males	1	2	2	1	1	...	...	16	3	18	1	...	8	9	2	...	19	...
Parr	Females	1	3	2	...	...	...	...	23	1	23	1	...	4	10	10	...	24	...
	Total	17	22	13	6	3	...	...	235	...	232	3	...	85	101	49	...	235	1
Perry	Males	8	11	6	2	1	...	...	109	...	108	1	...	40	52	17	...	109	...
	Females	9	11	7	4	2	...	...	126	...	124	2	...	45	49	32	...	126	...
Pike	Total	25	16	13	4	...	...	...	164	1	162	3	...	47	76	42	...	165	...
	Males	16	7	5	3	...	...	...	71	1	69	3	...	14	40	18	...	72	...
Pike	Females	9	9	8	1	...	...	...	93	...	93	...	...	33	36	24	...	93	...
	Total	22	23	14	5	1	...	...	271	3	267	7	...	96	128	52	...	274	28
Perry	Males	7	12	9	2	...	...	...	144	1	140	5	...	57	75	13	...	145	...
	Females	15	11	5	3	1	...	...	127	2	127	...	...	39	51	39	...	129	...
Pike	Total	17	17	8	11	3	...	1	197	2	170	29	...	76	71	51	1	199	...
	Males	8	6	5	7	...	...	...	116	1	103	14	...	51	44	22	...	117	...
Pike	Females	9	11	3	4	3	...	1	81	1	67	15	...	25	27	29	1	82	...
	Total	17	18	13	9	2	1	...	247	3	248	2	...	103	89	58	...	250	...
Pike	Males	11	10	9	1	1	1	...	127	3	129	1	...	54	50	26	...	130	...
	Females	6	8	4	8	1	...	...	120	...	119	1	...	49	39	32	...	120	...

Porter.....	Total.....	22	21	17	7	3	2	249	187	58	4	87	81	75	6	249	5
Males.....	12	9	1	2	1	1	1	106	106	23	4	64	42	31	6	143	
Females.....	10	12	7	6	1	1	1	106	81	25		22	39	44		106	
Poey.....	Total.....	23	18	15	10	5	1	213	19	21		88	86	58		232	
Males.....	11	11	9	6	1	1	1	119	7	12		56	45	25		126	
Females.....	12	7	6	4	4	1	1	94	12	9		32	41	33		106	
Pulaski.....	Total.....	12	16	9	5	1	1	124	115	19		45	49	40		124	1
Males.....	3	9	4	3	1	1	1	63	32	11		25	25	13		63	
Females.....	9	7	5	2	1	1	1	71	83	8		20	24	27		71	
Putnam.....	Total.....	31	22	19	14	3	2	248	4	247		66	117	67	2	252	4
Males.....	18	15	10	6	1	1	1	142	3	141		39	70	34	2	145	
Females.....	13	7	9	8	2	1	1	106	1	106		27	47	33		107	
Randolph.....	Total.....	41	43	23	19	5	1	355	3	352		104	160	94		358	3
Males.....	16	23	13	11	1	1	1	177	171	6		59	80	38		177	
Females.....	25	20	10	8	4	1	1	178	3	181		45	80	56		181	
Ripley.....	Total.....	24	22	19	10	4	1	225	184	41		61	99	65		225	
Males.....	14	12	11	5	1	1	1	123	107	22		35	64	30		129	
Females.....	10	10	8	5	4	1	1	96	77	19		26	35	35		96	
Rush.....	Total.....	24	32	14	13	1	1	240	1	236		73	98	70		241	2
Males.....	10	10	7	10	1	1	1	121	119	2		37	56	28		121	
Females.....	14	22	7	3	1	1	1	119	1	117		36	42	42		120	
Scott.....	Total.....	13	6	7	2	1	1	92	92			31	40	21		92	
Males.....	7	3	3	1	1	1	1	41	41			14	21	6		41	
Females.....	6	3	4	1	1	1	1	51	51			17	19	15		51	
Shelby.....	Total.....	29	34	29	11	4	2	377	6	376		117	184	92		383	3
Males.....	15	17	9	9	1	1	1	197	1	195		69	99	30		198	
Females.....	14	17	12	2	3	1	1	180	5	181		48	85	52		185	
Spencer.....	Total.....	16	21	15	8	4	1	210	11	204		83	83	55		221	
Males.....	13	8	7	2	1	1	1	120	6	118		56	52	18		129	
Females.....	3	13	8	6	3	1	1	90	5	86		27	31	37		95	
Stark.....	Total.....	12	7	8	3			115		95		39	54	21	1	115	
Males.....	7	5	4					69		69		22	36	9	1	69	
Females.....	5	2	4	3				46		39		16	18	12		46	
Stauben.....	Total.....	20	21	13	13	1		177	1	161		83	82	53		178	1
Males.....	11	10	3	7	1			91	1	83		19	56	17		92	
Females.....	9	11	10	6	1			86		78		14	36	36		86	

TABLE No. 3—Continued.

COUNTIES	Sex	70 to 74	75 to 79	80 to 84	85 to 89	90 to 94	95 and Over	Unknown	White	Colored	American	Foreign	Not Reported	Single	Married	Widowed or Divorced	Not Reported	Total	Non-ten- ants
St. Joseph.....	Total.....	94	55	45	21	9	.....	.....	1,100	13	871	240	2	456	419	234	4	1,113	23
	Males.....	49	23	24	11	4	.....	.....	634	6	501	136	2	289	251	95	4	639	.....
	Females.....	45	32	21	10	5	.....	.....	466	8	370	104	.....	167	168	139	.....	474	.....
Sullivan.....	Total.....	30	30	17	4	4	2	.....	361	1	357	3	2	159	132	69	2	362	1
	Males.....	13	17	8	2	2	.....	.....	192	1	190	1	2	98	70	22	2	193	.....
	Females.....	17	13	9	2	2	2	.....	169	.....	167	2	.....	61	62	46	.....	169	.....
Switzerland.....	Total.....	11	8	16	6	3	.....	.....	120	.....	116	4	.....	31	61	28	.....	120	.....
	Males.....	3	6	10	3	2	.....	.....	65	.....	63	2	.....	17	37	11	.....	65	.....
	Females.....	8	2	6	3	1	.....	.....	55	.....	53	2	.....	14	24	17	.....	55	.....
Tippecanoe.....	Total.....	92	69	56	31	7	4	2	702	8	604	104	4	175	318	213	6	712	148
	Males.....	47	35	28	10	4	1	2	355	3	293	85	2	104	190	62	5	360	.....
	Females.....	45	34	28	21	3	3	.....	347	5	311	39	2	71	129	151	1	352	.....
Tipton.....	Total.....	25	19	12	9	6	1	.....	210	.....	194	15	1	68	92	50	.....	210	1
	Males.....	13	9	5	4	2	.....	.....	109	.....	98	10	1	44	46	19	.....	109	.....
	Females.....	12	10	7	5	4	1	.....	101	.....	96	5	.....	24	46	31	.....	101	.....
Union.....	Total.....	10	9	11	1	3	3	.....	85	1	78	8	.....	21	42	23	.....	86	.....
	Males.....	8	5	7	.....	2	1	.....	40	.....	35	6	.....	11	21	9	.....	41	.....
	Females.....	2	4	4	1	1	2	.....	45	.....	43	2	.....	10	21	14	.....	45	.....
Vanderburgh.....	Total.....	109	76	48	22	6	4	1	1,114	157	1,093	175	3	451	509	304	7	1,271	95
	Males.....	57	38	19	8	4	.....	.....	606	90	608	85	3	283	294	113	6	696	.....
	Females.....	52	38	29	14	2	4	1	508	67	485	90	.....	168	215	191	1	575	.....
Vermillion.....	Total.....	15	16	12	10	3	.....	.....	283	2	259	25	1	125	103	56	1	285	2
	Males.....	9	4	9	5	.....	.....	.....	132	.....	135	16	1	76	54	21	1	132	.....
	Females.....	6	12	3	5	3	.....	.....	151	2	124	9	.....	49	49	35	.....	133	.....
Vigo.....	Total.....	92	62	64	21	6	4	.....	1,224	67	1,183	104	4	500	517	270	4	1,291	25
	Males.....	46	38	27	13	2	1	.....	640	42	618	61	3	287	287	104	4	682	.....
	Females.....	46	24	37	8	4	3	.....	584	25	565	43	1	213	230	166	.....	609	.....
Wabash.....	Total.....	34	34	19	7	4	1	.....	310	3	305	7	1	83	151	78	1	313	3
	Males.....	21	16	11	4	2	.....	.....	166	1	159	7	1	52	83	29	1	167	.....
	Females.....	13	19	8	3	2	1	.....	144	2	146	.....	.....	31	66	49	.....	146	.....

Tippecanoe; 3 Indiana, Males.

TABLE No. 4.

Number of Deaths from all Causes, and Rate per 1000 Population. (Stillbirths Excluded.)

	Population	Total Deaths Reported All Causes, Year 1915	Death Rate Per 1,000 Population	IMPORTANT AGES.						DEATHS FROM IMPORTANT CAUSES																
				Under 1 Year	1 to 4 inclusive	5 to 9 inclusive	10 to 14 inclusive	15 to 19 inclusive	25 years and over	Pulmonary Tuberculosis (Other forms of Tuberculosis)	Typhoid Fever	Diphtheria and Croup	Scarlet Fever	Measles	Whooping Cough	Lobar and Broncho Pneumonia	Diarrhoea and Enteritis (Under 2 Years)	Cerebro-spinal Fever	Acute Anterior Polyomyelitis	Influenza	Puerperal Septicemia	Cancer	External Causes	Smallpox	Deaths of Non- Residents	
State of Indiana	2,824,237	35,416	12.5	4,947	1,726	683	512	840	12,527	3,444	577	415	302	102	69	168	3,098	1,156	63	16	509	185	2,314	2,546	10	10
Northern Counties	982,219	11,771	11.9	1,871	547	216	144	259	4,226	923	147	117	78	39	32	75	993	490	12	9	172	56	848	965	3	3
Adams	21,068	233	10.6	26	13	4	3	6	99	27	5	7	1	1	1	1	18	3	1	5	1	26	11	11	1	1
Allen	100,910	1,178	11.6	143	33	24	14	33	401	93	18	6	12	1	12	118	20	1	12	2	100	93	113	9	1	
Benton	12,688	108	8.5	16	9	3	3	2	48	7	3	1	1	1	1	10	4	1	1	1	3	9	1	1	1	
Blackford	16,120	165	10.2	36	5	2	3	7	54	13	4	1	2	1	1	24	5	3	3	1	7	9	1	1	1	
Carroll	17,078	189	10.5	25	14	5	1	1	86	11	1	4	2	1	2	21	5	1	6	3	7	14	1	1	1	
Cass	37,504	570	10.0	52	17	5	4	7	200	47	7	11	2	1	3	23	12	1	12	2	35	46	105	1	1	
DeKalb	25,354	310	12.2	32	8	3	3	15	130	20	6	2	1	1	3	12	3	1	12	3	34	13	1	9	1	
Elkhart	50,924	660	11.7	73	17	12	5	10	256	38	6	5	4	1	3	46	5	1	11	4	54	45	1	12	1	
Fulton	16,879	205	12.1	22	10	9	1	5	87	11	1	3	2	1	1	7	5	1	1	1	19	17	1	7	1	
Grant	52,234	814	15.5	93	33	9	11	13	388	64	11	9	5	1	11	59	7	3	1	8	4	55	51	44	1	
Howard	35,737	418	11.7	73	27	7	5	11	139	34	8	5	3	1	2	44	18	1	5	2	28	38	10	1	1	
Huntington	29,294	324	11.4	34	11	5	4	6	152	29	4	4	1	1	1	17	3	1	11	2	29	26	1	1	1	
Jasper	13,696	118	9.0	21	7	3	3	3	48	11	4	2	2	1	1	8	3	1	2	2	3	10	2	1	1	
Jay	25,093	275	10.9	36	9	10	2	9	114	24	5	2	3	2	1	21	6	1	5	2	26	23	2	1	1	
Kosciusko	28,112	310	11.0	44	11	3	4	4	136	23	5	2	1	1	2	29	6	1	2	2	22	24	1	1	1	

TABLE No. 4—Continued.

	Population	Total Deaths Reported All Causes, Year 1915	IMPORTANT AGES						DEATHS FROM IMPORTANT CAUSES																
			Under 1 Year	1 to 4 inclusive	5 to 9 inclusive	10 to 14 inclusive	15 to 19 inclusive	20 years and over	Pulmonary Tuberculosis	Other forms of Tuberculosis	Typhoid Fever	Diphtheria and Croup	Scarlet Fever	Measles	Whooping Cough	Lobar and Broncho Pneumonia	Diarrhoea and Enteritis (Under 2 Years)	Cerebro-spinal Fever	Acute Anterior Polyomyelitis	Influenza	Puerperal Septicemia	Cancer	External Causes	Smallpox	Deaths of Non- Residents
Rush.....	19,501	241	12.3	25	12	6	5	106	18	6	1	1	1	1	1	18	2	2	1	4	3	22	20	2	2
Shelby.....	27,724	383	13.8	42	17	6	10	141	45	8	4	4	6	1	2	32	8	8	1	11	3	20	18	1	148
Tippecanoe.....	40,527	712	17.4	60	12	6	8	322	58	7	8	6	4	2	1	48	8	8	1	8	3	62	44	1	148
Tipton.....	17,583	210	11.9	37	6	3	5	82	20	4	1	2	1	1	1	15	8	8	1	1	1	19	14	1	11
Union.....	6,260	86	13.7	7	3	3	1	45	9	2	1	1	1	1	1	2	2	2	1	1	1	9	7	2	2
Vermillion.....	20,309	285	14.0	62	19	16	7	76	23	7	0	0	0	0	0	32	19	19	2	5	2	11	34	2	2
Vigo.....	98,286	1,291	13.1	179	79	36	21	305	139	17	18	26	1	3	142	59	2	2	1	12	12	71	122	25	25
Warren.....	10,869	120	11.0	17	2	4	2	54	9	2	4	4	1	1	4	11	3	3	1	6	2	7	8	3	3
Wayne.....	45,669	678	14.8	72	18	7	12	274	51	7	4	1	2	4	50	15	1	1	1	6	2	52	44	49	49
Southern Counties.....	678,748	8,199	14.5	1,175	594	176	151	2,807	986	138	143	104	232	20	20	746	302	17	2	134	43	466	514	3	3
Clark.....	30,280	345	11.4	43	19	8	9	117	35	10	5	10	1	1	1	34	6	3	3	5	8	19	27	3	3
Crawford.....	12,957	131	10.5	20	13	4	4	53	16	4	1	1	1	1	1	25	11	1	1	4	3	7	9	1	1
Daviess.....	27,747	296	10.6	50	15	6	8	104	32	2	5	5	1	1	1	25	22	1	1	3	1	19	20	1	1
Dearborn.....	21,700	257	11.7	23	8	3	6	104	31	2	1	2	1	1	2	28	6	6	1	13	3	18	19	1	1
Dubois.....	19,843	234	11.7	31	22	7	5	85	25	4	2	4	3	3	3	30	4	4	1	13	3	13	10	1	1
Floyd.....	30,361	423	13.9	35	16	8	7	160	57	6	7	4	4	4	4	23	6	6	1	8	3	23	28	1	1
Gibson.....	30,297	349	11.5	70	24	6	6	130	39	4	11	2	2	2	2	32	25	1	1	6	1	18	21	2	2
Greene.....	40,209	386	9.6	62	34	10	9	121	47	8	7	15	1	1	2	49	13	1	1	3	1	14	25	2	2
Harrison.....	20,232	211	10.4	29	20	3	6	86	32	2	6	6	1	1	1	21	17	7	1	3	1	11	11	2	2
Jackson.....	24,727	285	11.9	31	20	6	4	96	36	4	4	3	3	1	1	30	16	8	1	3	2	27	20	2	2
Jefferson.....	20,453	391	19.0	30	13	8	5	154	48	4	4	2	2	2	2	23	8	3	1	3	3	24	17	66	66
Jennings.....	14,229	193	13.5	16	7	8	4	84	16	7	5	2	2	2	2	14	5	5	1	3	2	13	16	1	1
Knox.....	41,716	507	12.1	86	56	17	9	132	43	10	6	6	6	2	2	64	21	2	2	7	3	28	42	1	1
Lawrence.....	32,581	380	11.6	71	21	9	10	112	51	8	9	1	1	1	4	22	22	2	1	6	1	18	20	2	2
Martin.....	13,258	119	8.9	31	10	1	2	40	17	2	2	2	2	1	1	9	4	4	1	1	0	2	3	8	8
Ohio.....	4,329	43	9.9	7	1	1	1	18	6	1	1	1	1	1	1	6	1	1	1	1	1	8	3	1	1

Orange.....	17,324	235 13.5	31	16	4	7	7	81	40	4	5	2	3	...	20	5	...	3	2	14	10	...			
Perry.....	18,350	199 10.8	30	19	3	3	7	77	27	4	6	5	1	3	20	7	...	4	1	10	14	...			
Pike.....	19,694	250 12.7	48	25	7	3	8	75	30	...	6	5	1	4	20	19	3	...	3	1	9	11	...		
Posey.....	21,842	232 10.6	31	23	5	6	6	85	29	5	3	1	1	...	14	14	...	4	2	13	16	...			
Ripley.....	19,756	225 11.3	23	16	1	2	4	96	21	4	1	2	...	2	18	6	1	...	...	23	20	...	
Scott.....	8,727	92 10.5	17	8	1	1	...	34	11	1	1	1	...	...	12	3	...	...	1	4	6	...
Spencer.....	20,676	221 10.6	32	11	5	3	6	77	29	2	6	...	1	1	18	9	1	...	3	1	12	12	...		
Sullivan.....	35,011	362 10.3	74	27	15	6	10	116	38	7	6	7	6	2	1	33	12	...	1	21	23	1	...		
Switzerland.....	9,914	120 12.1	14	3	1	...	1	58	12	...	...	...	...	...	7	4	...	...	...	7	10	...
Vanderburgh.....	81,694	1,271 15.5	167	65	17	19	32	348	166	27	22	10	2	4	126	50	...	1	13	10	68	71	...		
Warrick.....	22,287	230 10.3	33	14	6	7	15	78	28	6	4	2	1	...	26	4	...	...	7	10	15	...	
Washington.....	17,445	192 11.0	20	17	6	1	8	77	24	2	3	1	1	1	15	2	4	...	8	...	13	11	...		
Urban.....	1,274,523	17,438 13.6	2,458	831	310	241	406	5,022	1,680	306	190	145	49	42	91	1,528	896	28	10	197	117	1,124	1,332	4	...
Rural.....	1,549,714	17,978 11.6	2,489	895	373	271	434	7,505	1,764	271	225	157	53	27	77	1,570	460	35	6	312	681	1,190	1,214	6	...

TABLE No. 5.

Death Rate by Counties, all Causes, per 1,000 Population. (Stillbirths Excluded.)

DEATHS FROM IMPORTANT CAUSES																				
Population	Total Deaths Reported All Causes, Year 1915	Death Rate Per 1,000 Population	Pulmonary Tuberculosis	Other Forms of Tuberculosis	Typhoid Fever	Diphtheria and Croup	Scarlet Fever	Measles	Whooping Cough	Lobar and Broncho Pneumonia	Diarrhoea and Enteritis (Under 2 Years)	Cerebro-spinal Fever	Acute Anterior Polyomyelitis	Influenza	Puerperal Septicemia	Cancer	External Causes	Smallpox	Deaths of Non- Residents	
State of Indiana.....	2,824,237	35,416	122.0	20.5	14.6	10.6	3.4	2.4	5.9	109.7	41.0	2.2	.5	13.0	6.5	81.9	90.1		.3	.....
Northern Counties.....	982,219	11,771	11.9	93.9	14.9	7.9	3.9	3.2	7.6	98.0	49.8	1.2	.9	17.5	5.7	86.3	98.2	.3		.....
Adams.....	21,968	233	10.6	123.0	22.7	31.8	4.5	9.1	4.5	81.9	13.6			22.7	4.5	118.4	50.1			.04
Allen.....	100,910	1,178	11.6	62.1	17.8	5.9	11.8	.9	11.8	116.9	19.8	.9		11.8	1.9	99.1	92.1			1.1
Benton.....	12,688	168	8.5	55.2					78.8	31.5		7.8			7.8	23.6	71.0			.07
Blackford.....	15,190	165	10.2	80.6	24.8	6.2	12.4		6.2	148.9	31.0			18.6	6.2	43.4	55.8	6.2		
Carroll.....	17,978	189	10.5	61.2	3.5	22.2	11.1		11.1	116.9	27.8			33.6	16.6	38.9	77.9			.05
Cass.....	37,604	570	10.0	125.3	18.6	29.3	5.3	2.6	8.0	98.0	22.0		2.6	32.0	5.3	93.2	122.7			2.8
Delaware.....	35,334	310	12.2	73.8	23.9	7.8		3.9	11.8	47.3	11.8	3.9	3.9	47.3	2.8	134.1	51.2			.3
Elkhart.....	50,924	600	11.7	74.6	11.7	9.8	7.8		5.8	90.3	9.8		1.9	21.6	7.8	106.0	83.4	1.9		.2
Fulton.....	16,879	205	12.1	68.2	3.9	17.7		11.8		41.5	29.6			35.5	5.9	112.6	100.9			.4
Grant.....	52,234	814	15.5	123.5	21.0	17.2	19.5		21.0	113.0	13.4	5.7	1.9	15.3	7.6	105.3	97.6			.8
Howard.....	35,737	418	11.7	95.1	22.3	14.0	8.3	14.0	5.5	123.2	50.3	2.7		14.0	5.5	78.3	106.4			.2
Huntington.....	29,294	334	11.4	99.0	13.6	13.6		3.4		58.0				37.5	6.8	99.0	88.7			.3
Jasper.....	13,066	118	9.0	84.0	30.5	15.2		15.2		61.1	22.9	8.8		15.2		22.9	76.4			.07
Jay.....	25,063	275	10.9	85.6	19.9	7.9	11.9	7.9		83.7	23.9			19.9	7.9	103.6	91.6			.03
Kosciusko.....	28,112	310	11.0	81.8	17.7	3.5	3.5	7.1	7.1	103.1	21.3	3.5		7.1		73.2	85.3			.06
Lagrange.....	15,143	192	12.6	92.4		13.2	6.6	6.6		52.8	6.6		6.6	19.8	13.2	112.3	99.0	6.6		

Lake.....	107,484	13.6	107.1	14.9	14.9	13.0	9.3	13.0	10.2	192.7	228.2	1.8	9.3	9.3	0.3	50.2	161.1	.....	4
Lafayette.....	572	11.9	79.1	14.5	8.3	8.3	2.0	10.6	86.6	54.1	.....	2.0	14.5	14.5	2.0	85.4	97.5	.....	3
Lamar.....	293	11.6	82.5	16.5	4.1	12.3	.....	8.2	45.4	28.9	.....	.....	20.6	20.6	3.2	102.2	98.7	.....	1
Lamar.....	348	11.4	82.4	9.8	18.4	6.5	3.2	3.2	103.3	19.7	.....	.....	13.2	13.2	3.2	102.2	82.4	.....	2
Newton.....	84	7.9	57.7	.....	19.0	.....	9.5	19.0	57.7	.....	.....	.....	.....	.....	.....	38.0	.....	.....	.....
Noble.....	317	12.8	101.4	4.0	10.1	4.0	.....	.....	89.2	24.3	.....	.....	4.0	20.2	4.0	125.8	89.2	.....	1
Parker.....	240	11.9	81.6	9.6	4.8	14.4	.....	.....	100.8	43.2	.....	.....	33.6	33.6	33.6	146.9	.....	.....	2
Pulaski.....	13,312	13.4	10.0	30.0	15.0	7.5	7.5	7.5	73.1	52.5	.....	.....	48.0	48.0	48.0	160.1	.....	.....	.07
Stark.....	10,610	11.5	10.9	84.8	9.4	9.4	.....	.....	113.1	37.7	.....	.....	27.6	27.6	27.6	130.8	.....	.....	.06
Stauben.....	14,488	17.8	12.3	103.8	13.8	13.8	13.8	13.8	48.4	6.9	.....	.....	.....	.....	.....	88.0	.....	.....	.....
St. Joseph.....	94,484	11.13	11.7	108.0	14.8	17.9	3.1	6.3	5.2	70.4	68.8	1.0	2.1	12.7	9.5	77.2	96.3	.....	2
Wabash.....	28,650	11.6	103.9	28.6	7.4	3.7	3.7	3.7	86.3	26.9	.....	.....	14.8	11.1	11.1	84.3	111.3	.....	.1
Wells.....	22,618	9.4	82.8	8.8	4.3	.....	.....	13.2	118.0	8.8	.....	.....	8.8	8.8	.....	39.8	.....	.....	.1
White.....	17,626	17.6	9.9	83.1	5.6	25.2	5.6	5.6	90.8	17.0	.....	.....	.....	.....	.....	107.8	68.1	.....	.....
Whitley.....	17,060	19.7	11.5	96.5	5.8	11.7	5.8	5.8	17.5	35.1	6.8	.....	.....	.....	.....	146.4	87.8	.....	.....
Central Counties.....	1,165,270	13.2	131.6	25.0	13.2	10.2	3.4	1.2	6.2	116.6	31.2	2.9	.4	17.4	7.3	85.7	91.5	.....	.3
Bartholomew.....	25,085	320	12.7	189.5	23.9	15.9	.....	.....	87.7	23.9	.....	.....	43.8	43.8	43.8	103.7	79.7	.....	.03
Boone.....	27,073	270	11.0	111.7	27.9	31.9	3.9	3.9	78.7	16.9	.....	3.9	.....	27.9	3.9	67.8	53.8	.....	.1
Brown.....	7,973	72	9.0	75.2	.....	.....	.....	.....	78.2	12.5	.....	.....	25.0	25.0	25.0	25.0	25.0	.....	.06
Clay.....	33,243	367	11.0	87.2	21.0	9.0	6.0	6.0	108.3	18.0	.....	3.0	.....	21.0	12.0	72.2	78.2	.....	.1
Clinton.....	27,286	317	11.6	80.6	47.6	11.0	3.6	3.6	99.0	22.0	7.3	.....	.....	11.0	11.0	96.0	64.3	.....	.....
Decatur.....	18,945	228	12.0	88.0	21.1	26.4	10.5	.....	105.6	21.1	.....	.....	15.8	15.8	15.8	99.3	64.4	.....	.1
Delaware.....	52,538	622	11.8	89.3	24.7	17.1	9.5	3.8	9.5	35.7	.....	5.7	.....	26.6	9.5	52.1	129.1	.....	.1
Fayette.....	14,783	203	13.7	135.3	6.7	13.5	13.5	.....	6.7	108.2	27.0	.....	.....	20.2	13.5	101.5	87.9	.....	.1
Fountain.....	20,616	223	10.8	72.7	.....	9.7	9.7	9.7	116.4	19.4	.....	.....	14.5	14.5	14.5	92.2	82.4	.....	.04
Franklin.....	15,335	196	12.7	110.9	19.1	13.0	13.0	.....	26.1	97.8	13.0	.....	.....	13.0	6.5	130.5	97.8	.....	.....
Hamilton.....	27,138	323	11.9	81.0	14.7	11.0	11.0	3.6	7.3	93.8	22.1	3.6	.....	11.0	3.6	81.0	51.6	.....	.1
Hancock.....	19,080	213	11.2	73.5	6.2	.....	.....	10.5	5.2	131.4	5.2	.....	.....	15.7	15.7	83.0	64.0	.....	.06
Hendricks.....	20,840	264	12.1	119.9	33.6	9.5	.....	.....	14.3	71.9	33.5	4.7	.....	23.9	23.9	96.9	98.3	.....	.....
Henry.....	30,829	420	13.6	123.3	16.2	3.2	9.7	6.4	6.4	100.6	38.9	.....	13.9	13.9	9.7	55.1	71.3	.....	.5
Johnson.....	20,590	250	12.1	105.4	33.9	9.7	24.2	.....	24.4	116.5	24.4	.....	24.4	24.4	4.8	24.2	72.8	.....	.....
Madison.....	66,144	766	11.5	98.2	36.2	12.0	12.0	6.0	13.6	73.6	34.7	1.5	.....	13.6	6.0	83.1	71.0	.....	.1
Marion.....	290,061	4,386	15.1	179.6	32.7	13.4	8.2	2.7	7.2	141.4	32.0	6.5	.6	9.6	9.6	92.7	97.6	.....	.8
Monroe.....	28,446	287	11.7	130.9	24.5	12.2	8.1	.....	4.0	183.2	61.3	.....	.....	12.2	8.1	90.0	73.6	.....	.1
Montgomery.....	30,392	412	13.5	105.3	13.1	6.5	3.2	13.1	9.8	92.1	16.4	3.2	.....	49.3	49.3	108.6	95.8	.....	.1
Morgan.....	21,470	256	10.6	135.1	27.9	23.2	9.3	9.2	195.6	23.2	.....	.....	23.2	23.2	.....	80.5	55.9	.....	.2
Owen.....	14,053	165	11.7	113.9	77.1	14.2	.....	7.1	142.3	7.1	.....	.....	7.1	7.1	14.2	92.5	135.2	.....	.....
Perkins.....	22,214	274	12.3	243.1	22.2	13.5	.....	9.0	108.1	31.5	.....	.....	36.0	36.0	.....	54.0	72.0	.....	1.0
Putnam.....	20,568	292	12.2	126.5	19.4	24.3	.....	9.7	107.0	4.8	.....	.....	9.7	9.7	9.7	102.1	58.3	.....	.1
Randolph.....	29,429	338	12.2	108.8	30.6	10.2	6.7	10.2	71.3	20.4	3.3	23.8	23.8	3.3	61.1	67.9
Rush.....	19,501	241	12.3	92.3	30.7	5.1	5.1	.....	92.3	92.3	.....	.....	20.5	20.5	15.3	112.8	102.6	.....	.1

TABLE No. 5—Continued.

	Population	Total Deaths Reported All Causes, Year 1915	Death Rate Per 1,000 Population	Pulmonary Tuberculosis	DEATHS FROM IMPORTANT CAUSES												External Causes	Smallpox	Deaths of Non- Residents
					Other Forms of Tuberculosis	Typhoid Fever	Diphtheria and Group	Scarlet Fever	Measles	Whooping Cough	Lobar and Pneumo- Pneumonia	Diarrhea and Enteritis (Under 2 Years)	Cerebro-spinal Fever	Acute Anterior Polyomyelitis	Influenza	Puerperal Septicemia	Cancer		
Shelby.....	27,734	383	13.8	192.3	28.3	21.6	14.4		3.6	72.1	115.4	28.8	3.6		37.0	108.2	72.1	64.9	1
Tippecanoe.....	40,847	712	17.4	142.0	17.1	19.5	9.7	4.8			117.5	19.5			19.5	7.3	151.8	132.2	3.6
Tipton.....	17,583	210	11.9	113.8	22.5	5.6	11.3		5.6	5.6	85.3	45.5		5.6			108.1	79.6	.06
Union.....	6,290	86	13.7	143.7	31.9		15.9				31.9				15.9	15.9	143.7	111.8	
Vermillion.....	20,309	285	14.0	113.3	34.4		44.3			9.1	157.6	61.8			24.6	9.1	54.1	167.5	.09
Vigo.....	98,286	1,291	13.1	141.4	17.2	18.3	26.4	1.0	7.1	3.0	144.5	60.0	2.0		12.2	12.2	72.2	124.1	.2
Warren.....	10,899	120	11.0	82.5	18.3	36.7					109.9	27.5				9.1	64.2	73.4	1
Wayne.....	45,669	678	14.8	111.7	15.3	9.7	2.1	4.3		8.7	109.5	32.8		2.1	13.1	4.3	113.9	96.3	1.0
Southern Counties.....	676,748	8,199	14.5	145.7	20.3	21.1	15.3	3.3	3.2	2.9	110.2	44.6	2.5	.2	19.8	6.3	68.8	75.9	.4
Clark.....	30,280	345	11.4	115.7	33.0	16.5	33.0				112.3	19.8	9.9		16.5		62.7	89.2	.09
Crawford.....	12,087	131	10.8	132.8	16.6	33.2	8.2	8.2		8.2	74.6	8.2	8.2		66.3		58.0	74.6	
Daviess.....	27,747	296	10.6	115.3	7.2	18.0	18.0	3.6			90.0	79.2	3.6		14.4	3.6	68.4	72.0	.03
Dearborn.....	21,700	257	11.8	142.9	9.2		4.6		4.6	9.2	119.8	27.6			13.8	13.8	82.9	87.5	
Dubois.....	19,843	224	11.7	126.0	20.1	10.0	20.1		15.1	15.1	151.2	20.1			64.6	5.0	64.6	50.4	.05
Floyd.....	30,361	423	13.9	187.8	19.7	23.0	13.1				75.7	19.7			26.3	9.8	75.7	92.2	.3
Gibson.....	30,297	359	11.8	128.7	13.2	36.3	6.6	6.6	6.6		105.6	82.5	3.3		19.8	3.3	56.4	69.3	
Greene.....	40,209	386	9.6	116.9	19.9	17.4	37.3		2.4	4.9	121.9	32.3			17.4		34.8	62.1	
Harrison.....	20,232	211	10.4	158.2	9.8	29.6		4.9			103.8	34.6			14.8	4.9	54.3	54.3	
Jackson.....	24,727	295	11.9	145.6	16.1	16.1	12.1			4.0	121.4	64.7			28.3	12.1	109.2	80.9	.08
Jefferson.....	20,453	391	19.0	224.3	19.5	19.5	9.7				112.3	39.0			14.6	9.7	117.2	83.0	3.1
Jennings.....	14,239	193	13.5	112.4	49.1	35.1	14.0				98.3	35.1			21.0	14.0	91.3	112.4	
Knox.....	507	12.1	103.1	23.9	21.5	19.1	4.7			4.7	153.5	50.3	4.7		11.9	7.1	100.7	2.3	.1
Lawrence.....	32,581	380	11.6	156.5	24.5	27.6	27.6	3.0		12.2	67.5	67.5			21.4	6.1	55.2	61.3	.06
Martin.....	13,268	119	8.9	123.3	15.0	15.0	15.0				67.9	33.1		7.5	45.2		15.0	61.2	

TABLE No. 6.

Number of Deaths from All Causes, and Rate per 1,000 Population. Important Ages. Important Causes. (Stillbirths Excluded.)

CITIES	Population	Total Deaths Reported All causes, Year 1915.	Death Rate Per 1,000 Population.	IMPORTANT AGES						DEATHS FROM IMPORTANT CAUSES																
				Under 1 Year	1 to 4, Inclusive	5 to 9, Inclusive	10 to 14, Inclusive	15 to 19, Inclusive	65 Years and Over	Pulmonary Tuberculosis	Other Tuberculosis	Typhoid Fever	Diphtheria and Croup	Scarlet Fever	Measles.	Whooping Cough	Lobar and Broncho Pneumonia	Diarrhoea and Enteritis (Under 2 Years)	Cerebro-Spinal Fever	Acute Anterior Polyomyelitis	Influenza	Puerperal Septicemia	Cancer	External Causes	Deaths of Non- Residents	
Cities of the First Class, Population 100,000 and over.....	259,442	3,913	15.0	460	146	56	47	94	1,028	466	78	37	21	8	.....	18	335	81	17	1	24	27	247	242	.....	.....
Indianapolis.....	259,442	3,913	15.0	460	146	56	47	94	1,028	466	78	37	21	8	.....	18	335	81	17	1	24	27	247	242	.....	267
Cities of the Second Class, Population 45,000 to 100,000.....	273,921	3,443	12.5	458	160	74	52	85	885	336	56	39	35	4	13	12	337	122	2	2	28	29	209	268	.....	.....
Evansville.....	73,903	982	13.2	129	49	15	13	28	261	112	23	18	6	1	2	.....	105	35	.....	.....	8	9	51	60	.....	38
Ft. Wayne.....	71,457	879	12.3	80	28	12	12	20	244	60	12	4	7	.....	1	4	83	14	.....	.....	6	2	74	61	.....	101
Terre Haute.....	66,749	895	13.4	98	47	24	14	21	218	105	13	14	8	1	6	3	98	30	2	.....	9	9	49	90	.....	32
South Bend.....	61,812	687	11.1	151	36	23	13	16	162	59	8	3	14	2	4	5	51	43	.....	2	5	9	35	57	.....	28
Cities of the Third Class, Population 25,000 to 45,000.....	274,558	3,863	14.0	740	202	68	50	69	932	303	57	48	35	14	15	23	369	280	4	4	43	23	224	350	1	.....
Gary.....	32,802	382	11.6	141	47	7	2	5	18	19	7	1	.....	.....	3	3	62	68	2	1	3	4	10	57	.....	.....
Muncie.....	25,229	311	12.3	36	18	4	7	13	96	27	7	2	3	1	.....	2	18	9	.....	1	9	2	17	35	.....	8
Hammond.....	24,341	365	15.0	86	17	9	6	7	45	24	2	7	7	2	3	3	39	40	.....	1	4	2	17	47	.....	39
Richmond.....	23,960	310	12.9	42	7	5	3	6	122	29	2	2	.....	.....	.....	.....	18	10	.....	1	4	1	27	24	.....	.....
Anderson.....	23,396	287	12.2	41	5	9	4	6	77	25	12	2	3	1	.....	3	26	5	.....	.....	3	20	18	1	.....	5
East Chicago.....	21,370	369	17.2	167	39	8	2	5	11	22	2	3	5	5	8	3	69	107	.....	1	1	1	5	32	.....	18
Elkhart.....	20,918	272	13.0	30	9	4	3	2	92	21	1	2	4	.....	.....	1	.....	4	.....	1	1	2	23	18	.....	18
Lafayette.....	20,865	411	19.7	45	10	4	5	4	138	35	3	8	1	1	.....	.....	32	4	.....	1	1	3	41	35	.....	69

Michigan City.....	20,493	254	12.2	58	13	5	5	8	62	25	5	3	1	2	22	17	1	1	16	16	7
New Albany.....	20,039	322	15.6	24	17	6	5	2	110	41	5	7	4	1	18	5	1	2	18	19	10
Logansport.....	20,186	272	13.4	30	9	4	5	2	80	13	4	7	2	1	19	7	1	9	1	27	13
Marion.....	20,167	308	15.2	40	11	3	2	3	81	22	7	4	5	1	5	21	4	3	2	25	6
Cities of the Fourth Class																					
Population 10,000 to 20,000.....																					
Kokomo.....	19,570	255	13.0	48	13	5	4	8	58	19	6	4	3	3	1	22	12	1	2	3	9
Vincennes.....	16,751	220	13.1	24	27	10	3	3	54	18	6	4	4	1	1	23	12	3	2	17	8
Minawabka.....	14,414	174	12.0	37	7	3	4	2	31	17	3	1	3	1	1	13	15	3	2	12	8
Peru.....	12,752	145	11.3	10	6	1	3	3	67	7	1	3			1	18	2	2	8	12	3
Laporte.....	11,925	152	12.7	20	7	2	1	6	56	5					2	3	8	4	4	12	6
Elwood.....	11,028	127	11.5	25	5	2	2	1	42	9	1	2			1	5	5	1	2	1	6
Huntington.....	10,594	177	12.0	12	5	1	1	1	49	10	1	1	1		3	1	4	7	1	6	13
Crawfordsville.....	10,459	165	13.7	11	2	4	2	6	78	9	1	1	1	3	1	9	3	7	2	12	9
Shelbyville.....	10,432	160	15.3	19	8	6	3	4	49	15	3	4	3	6	3	12	1	7	4	10	6
Jeffersonville.....	10,412	130	12.4	6	7	2	6	3	34	17	5			2	2	1	6	1	8	7	3
New Castle.....	10,050	128	12.7	23	14	3	4	2	27	15	4			2	1	6	8	1	2	6	1
Cities of the Fifth Class																					
Population under 10,000.....																					
Brazil.....	9,960	128	12.8	15	10	2	1	1	40	6	4			2		13	2	1	3	69	1
Bloomington.....	9,782	136	13.9	14	8	1	1	1	40	17	3					24	6	2	11	9	3
Bedford.....	9,756	117	11.9	22	8	4	2	3	29	16	1	3	3	1	3	6	12	2	2	12	8
Frankfort.....	9,246	139	15.0	16	8	2	5	54	8	5	2			1	15	4	1	1	4	9	1
Columbus.....	9,085	119	13.1	7	2	2	5	41	17	3	2				5	3	1	1	13	5	1
Goshen.....	8,794	125	14.2	12	2	3	3	64	2	3	1				1	8	1	1	2	9	14
Wabash.....	8,711	98	11.2	8	5	1	4	43	13	4	2			1	6	1	1	1	4	9	2
Connersville.....	8,098	118	14.5	10	8	2	2	52	12	1				1	9	3	1	1	6	8	2
Washington.....	7,854	104	13.2	18	8	2	3	31	13	1	1	1	1	1	9	12		1	7	5	1
Whiting.....	7,627	105	13.7	37	9	1	3	6	10	2	2	1	1	1	10	21	1	1	4	10	
Clinton.....	7,553	107	14.1	27	6	4	1	17	13	3					12	9	2	1	4	10	
Valparaiso.....	7,267	75	10.3	7	2	1	2	30	3					5	1	1	4	4	11	6	
Linton.....	7,038	53	7.5	4	7	2	1	9	9		3	7			3	2	2	4	1	7	
Madison.....	6,934	124	17.8	9	3	2	2	46	18	1	2				5	3	1	1	9	4	
Princeton.....	6,608	93	14.0	18	4	2	2	34	12	2	1	1	1	1	9	4		1	9	4	
Harford City.....	6,487	65	10.0	14	2	2	1	20	3	2	1	2			8	2		3	4	1	
Seymour.....	6,309	98	15.5	17	10	2	3	23	17	1	1	1	1		12	6		2	10	9	
Lebanon.....	5,874	76	12.9	8	4	1	1	1	38	7	1	1	1		1	1		1	2	2	
Mt. Vernon.....	5,735	90	15.6	11	10	1	4	3	31	10	4	1			3	1		3	1	4	
Kendallville.....	5,629	66	11.7	8	2	1	1	23	7						2	8		1	4	3	

TABLE No. 6—Continued.

CITIES	Popu- lation	Total Deaths Reported All Causes, Year 1914	Death Rate Per 1,000 Population	IMPORTANT AGES						DEATHS FROM IMPORTANT CAUSES																
				Under 1 Year						Pulmonary Tuberculosis	Other forms of Tuberculosis	Typhoid Fever	Diphtheria and Group	Scarlet Fever	Measles	Whooping Cough	Lobar and Broncho Pneumonia	Dysentery and Enteritis (Under 2 Years)	Cerebro-Spinal Fever	Acute Anterior Polyomyelitis	Influenza	Periperal Septicemia	Cancer	External Causes	Smallpox	Deaths of Non- Residents
				1 to 4, Inclusive	5 to 9, Inclusive	10 to 14, Inclusive	15 to 19, Inclusive	20 Years and Over																		
Greensburg	5,572	107	19.2	9	3	1	1	1	59	5	3	4	1				12	1						10		3
Portland	5,262	60	11.4	9	2	1	1	1	20	7	1		1				10	5					1	1	4	
Bluffton	5,187	64	12.3	10	1	4	3	3	20	5	1					1	6	1					3	2	1	
Noblesville	5,185	85	16.3	10	4	3	4	4	25	6						2	8	2					6	6		
Alexandria	5,095	74	14.5	6	4	1	1		34	6	2	1				3	3	1					1	13		2
Rushville	5,077	76	14.9	10	2	3	2	2	29	4	3	1					12	3					2	6		6
Martinsville	4,725	74	15.6	11	5	2	2	2	26	7							7	3					3	5		6
Aurora	4,714	67	14.2	10	1		1	2	28	6	1					1	7	3					2	4		
Franklin	4,698	83	17.6	10	4			3	45	9	3	2	2			2	6	1					3	1	3	
Warsaw	4,606	70	15.2	2	3	1		2	25	6	2					1	5	1					3	1	4	
Deatur	4,599	60	13.2	12	2	1		2	28	6						2	3	1					2	1	3	
Sullivan	4,511	53	11.7	6	2	2		4	23	6							2	4					3	1	2	
Winchester	4,490	70	15.5	5	3	1	2	1	27	6	4		1				3	2					1	4	1	
Greenfield	4,448	56	12.5	3	1	2	1	1	21	1						1	6	3					3	4	3	
Boonville	4,310	71	16.4	6	7	2	3	5	22	8	1	1	2				1	3					3	6	2	
Garrett	4,241	51	12.0	7	3	1	1	5	19	3	1	1				1	1	1					3	2	10	
Tipton	4,199	60	14.2	5	2			1	33	4	1	1					3	1					4	5		
Auburn	4,127	58	14.0	1	1	1	1	1	31	2	1	1					1	1					3	3	1	
Mitchell	4,102	53	12.9	7	3	2	6	1	22	8	1						3	3					2	1	4	
Lawrenceburg	3,980	47	11.9	8	2	1	1	1	14	6							6	2					2	4	2	
Plymouth	3,910	71	18.1	2	3				30	7	1	1	1				2	1					1	6	11	1
Greencastle	3,838	46	11.9	1			1	1	23	6	2	2					2	2					1	4	5	
Tell City	3,641	56	15.3	11	4		2	2	15	7						2	6	1					1	2	7	
Columbia City	3,636	38	10.4	5					16	6	6	2					1	1					10	3	2	

Attica.....	3,467	39	11.2	5	3	1	2	1	16	4	1	1	1	5	1	1	5	2	5
Union City.....	3,401	44	12.9	4	1	2	1	1	10	1	1	1	1	5	1	1	5	2	5
Rochester.....	3,364	58	17.2	5	4	1	1	3	23	1	1	1	1	5	1	1	5	2	5
Jacksonville.....	3,305	34	10.2	5	4	1	1	3	9	1	1	1	1	5	1	1	5	2	5
Gas City.....	3,324	37	11.4	5	1	1	1	2	6	5	1	1	1	5	1	1	5	2	5
Dunkirk.....	3,031	27	8.9	4	2	1	1	2	8	5	1	1	1	5	1	1	5	2	5
North Vernon.....	2,951	51	17.2	3	4	1	1	3	20	2	1	1	1	5	1	1	5	2	5
Richmond.....	2,804	57	20.3	14	7	1	2	3	11	2	1	1	1	5	1	1	5	2	5
Angola.....	2,794	33	11.4	7	1	1	1	1	12	2	1	1	1	5	1	1	5	2	5
Montpelier.....	2,786	29	10.4	4	1	1	1	1	12	5	1	1	1	5	1	1	5	2	5
Rockport.....	2,736	31	11.3	4	2	1	1	1	6	5	2	1	1	5	1	1	5	2	5
Crown Point.....	2,602	34	13.0	3	1	2	1	1	16	4	1	1	1	5	1	1	5	2	5
Huntingburg.....	2,464	46	18.6	8	4	1	2	1	19	2	1	1	1	5	1	1	5	2	5
Logansport.....	2,462	31	12.5	6	2	1	1	2	13	6	1	1	1	5	1	1	5	2	5
Batesville.....	2,455	32	13.0	5	3	1	1	1	10	2	1	1	1	5	1	1	5	2	5
Remuslar.....	2,445	33	13.5	2	2	1	1	1	18	1	1	1	1	5	1	1	5	2	5
Jasper.....	2,366	14	11.7	1	2	1	1	1	6	2	2	1	1	5	1	1	5	2	5
Monticello.....	2,191	27	12.3	1	1	2	1	1	12	4	1	1	1	5	1	1	5	2	5
Ligonier.....	2,173	24	11.0	1	1	1	1	1	14	4	1	1	1	5	1	1	5	2	5
Delphi.....	2,169	25	11.5	1	2	1	1	1	16	2	1	1	1	5	1	1	5	2	5
Camleton.....	2,130	32	15.0	4	1	1	1	2	13	5	1	1	1	5	1	1	5	2	5
Cornington.....	2,069	25	12.0	1	1	1	1	1	14	2	1	1	1	5	1	1	5	2	5
Builer.....	1,818	26	14.3	1	1	1	1	1	9	1	1	1	1	5	1	1	5	2	5
Veedersburg.....	1,801	18	9.9	1	1	1	1	1	12	1	1	1	1	5	1	1	5	2	5
Flaming Sun.....	1,513	27	17.8	3	1	1	1	1	15	2	1	1	1	5	1	1	5	2	5
Vevay.....	1,256	17	13.5	2	1	1	1	1	9	4	1	1	1	5	1	1	5	2	5

TABLE No. 7.

Death Rate by Cities, All Causes, per 1,000 Population. Important Causes per 100,000 Population. (Still-births Excluded.)

CITIES	Popula- tion	Total Deaths Reported All Causes, Year 1916	Death Rate Per 1,000 Population	DEATHS FROM IMPORTANT CAUSES																Deaths of Non- Residents
				Pulmonary Tuberculosis	Other Forms of Tuberculosis	Typhoid Fever	Diphtheria and Croup	Scarlet Fever	Measles	Whooping Cough	Lobar and Broncho Pneumonia	Diphtheria and Enteritis (Under 2 Years)	Cerebro-Spinal Fever	Acute Anterior Poliomyelitis	Influenza	Puerperal Septicemia	Cancer	External Causes	Smallpox	
Cities of the First Class, Population 100,000 and over	259,442	3,913	15.0	179.6	30.0	14.2	8.0	3.0	.....	6.9	38.5	31.2	6.5	.3	9.2	2.7	95.2	93.2	1.0	.....
Indianapolis.....	259,442	3,913	15.0	179.6	30.0	14.2	8.0	3.0	.....	6.9	38.5	31.2	6.5	.3	9.2	2.7	95.2	93.2	1.0	1.0
Cities of Second Class, Population 45,000 to 100,000	273,921	3,443	12.5	122.7	20.4	14.2	12.7	1.4	4.7	4.3	123.0	44.5	.7	.7	10.2	10.5	76.3	97.8	.....	.....
Evansville.....	73,903	982	13.2	151.6	31.1	24.3	8.1	1.3	27.0	.....	142.1	46.2	.....	.....	11.0	12.1	69.0	81.2	.....	5.1
Ft. Wayne.....	71,457	879	12.3	83.9	16.7	6.5	9.7	1.4	1.4	5.5	116.2	19.5	.....	.....	8.3	2.7	103.6	85.3	.....	1.4
Terre Haute.....	66,749	885	13.4	157.3	19.4	20.9	11.9	1.4	8.9	4.4	146.8	44.9	2.9	.....	13.4	13.4	73.4	134.8	.....	4
South Bend.....	61,812	687	11.1	95.2	12.9	4.8	22.6	3.2	6.4	8.0	82.5	69.5	.....	3.2	8.0	14.5	56.6	92.2	.....	4
Cities of the Third Class, Population 20,000 to 45,000	274,558	3,863	14.0	110.4	20.7	17.4	12.7	5.1	5.4	8.3	134.4	102.0	1.4	1.4	15.6	8.3	85.2	127.5	.3	.....
Gary.....	32,802	382	11.6	57.9	21.3	3.0	.....	.....	9.1	9.1	189.0	207.3	6.0	2.0	9.1	12.1	30.3	173.8	.....	.....
Muncie.....	25,229	311	12.3	107.1	27.7	7.3	11.9	3.9	.....	7.3	71.3	35.6	.....	3.9	35.6	7.3	67.4	138.8	.....	3.1
Hammond.....	24,341	365	15.0	98.6	8.2	28.7	28.7	8.2	12.3	12.3	160.2	164.4	.....	.....	16.4	8.2	69.8	193.1	.....	1.6
Richmond.....	23,960	310	12.9	121.0	8.3	8.3	.....	.....	.....	.....	75.1	41.7	.....	4.1	16.7	4.1	112.7	100.2	.....	.....
Anderson.....	23,396	287	12.2	84.9	51.3	8.5	12.8	4.2	.....	12.8	111.2	21.3	.....	.....	12.8	85.5	76.9	4.2	2.1	.....
East Chicago.....	21,370	369	17.2	103.0	9.3	14.0	23.4	23.4	37.4	14.0	322.9	500.7	.....	.....	4.6	4.6	23.4	149.7	.....	0.4
Elkhart.....	20,918	272	13.0	100.4	4.7	9.5	19.1	4.7	.....	4.7	119.5	10.1	.....	4.7	4.7	9.5	105.2	86.0	.....	8
Lafayette.....	20,865	411	19.7	167.8	11.4	38.3	4.7	4.7	.....	4.7	133.4	19.1	.....	.....	19.1	11.4	196.1	167.8	.....	3.3

Michigan City.....	20,695	254	12.2	121.5	24.3	14.5	4.8	9.7	4.8	9.7	106.9	82.5	4.8	77.7	77.7	4.8	3.4
New Albany.....	20,620	322	15.6	198.9	24.2	33.9	19.4	4.9	4.9	4.9	87.3	24.2	10.4	9.7	87.3	92.1	4
Logansport.....	20,186	272	13.4	64.4	19.8	33.9	9.7	4.9	4.9	4.9	94.1	33.9	44.6	4.9	79.2	133.8	6
Marion.....	20,167	308	15.2	109.1	34.7	19.8	24.8	4.9	4.9	4.9	104.2	19.8	14.8	9.9	124.0	109.1	2
Cities of the Fourth Class, Population 10,000 to 20,000.....																	
Kokomo.....	19,570	255	13.0	97.1	30.6	20.4	14.9	14.9	7	11.5	96.1	47.6	2.8	10.8	83.8	96.1	....
Vincennes.....	16,751	220	13.1	107.5	35.8	23.8	23.8	6.9	6.9	5.1	112.4	61.3	5.1	10.2	14.9	97.1	138.0
Mishawaka.....	14,414	174	12.0	118.0	20.8	6.9	20.8	6.9	6.9	5.9	137.3	71.6	17.9	11.9	101.5	96.5	5.9
Peru.....	12,752	145	11.3	54.9	7.8	22.9	....	....	....	7.8	141.2	15.6	15.6	....	83.2	90.2	6
Laporte.....	11,925	152	12.7	42.0	....	....	....	16.7	....	25.1	67.1	25.1	....	....	62.7	94.1	2
Elwood.....	11,028	127	11.5	81.6	9.0	18.1	....	9.0	....	45.3	45.3	45.3	9.0	....	100.7	134.2	5
Huntington.....	10,584	127	12.0	94.5	9.0	9.0	....	9.0	....	37.9	....	....	....	....	54.4	72.6	....
Crawfordsville.....	10,459	165	15.7	86.1	9.5	9.5	....	28.7	....	9.5	86.1	28.7	....	....	56.7	122.8	....
Shelbyville.....	10,432	160	15.3	143.8	28.7	38.3	28.7	....	....	28.7	115.0	9.5	....	....	114.8	86.1	2
Jeffersonville.....	10,412	130	12.4	163.3	48.0	....	57.6	....	....	124.8	17.5	17.5	....	....	95.8	57.5	9.5
New Castle.....	10,060	128	12.7	149.2	39.8	....	19.9	19.9	....	9.9	59.7	79.6	....	....	76.8	67.2	....
Cities of the Fifth Class, Population under 10,000.....																	
Brasil.....	9,960	128	12.8	60.2	40.1	....	10.2	20.0	....	6.7	107.9	44.7	3	21.0	96.9	103.3	3
Bloomington.....	9,752	136	13.9	173.8	30.6	....	....	....	....	....	130.5	20.0	....	10.0	30.1	110.4	90.3
Bedford.....	9,756	117	11.9	153.7	10.2	30.7	30.7	....	....	30.7	61.5	123.0	....	20.4	122.7	81.7	....
Frankfort.....	9,246	139	15.0	86.5	54.0	21.6	....	10.8	....	....	161.8	43.2	....	20.5	51.2	40.0	....
Columbus.....	9,065	119	13.1	187.1	33.0	22.0	....	....	....	....	55.0	33.0	....	10.8	183.8	108.1	....
Goshen.....	8,794	125	14.2	22.7	34.1	11.3	....	11.3	....	11.3	90.9	....	....	....	143.1	55.0	....
Wabash.....	8,711	98	11.2	149.2	45.9	22.9	11.4	11.4	....	....	68.8	....	....	....	102.3	159.2	....
Connersville.....	8,098	118	14.5	148.2	12.3	....	12.3	....	....	12.3	111.1	37.0	....	11.4	45.9	103.3	....
Washington.....	7,854	104	13.2	165.5	12.7	12.7	12.7	12.7	....	....	114.6	152.8	....	....	12.3	74.1	98.7
Whiting.....	7,627	105	13.7	131.1	26.2	26.2	13.1	13.1	....	13.1	131.1	275.3	....	....	89.1	60.8	....
Clinton.....	7,553	107	14.1	172.1	39.7	....	....	....	....	....	158.9	119.1	....	....	52.4	131.1	....
Valparaiso.....	7,267	75	10.3	41.2	....	....	....	....	....	....	68.8	13.7	....	....	52.9	132.4	....
Linton.....	7,038	53	7.5	127.9	42.6	....	99.4	....	....	....	42.6	28.4	....	....	55.0	151.3	....
Madison.....	6,924	124	17.8	259.6	14.4	28.8	....	....	....	....	72.1	43.2	....	....	14.2	99.4	....
Princeton.....	6,608	93	14.0	181.6	30.2	....	15.1	15.1	....	....	136.2	60.5	....	....	14.4	129.8	57.6
Hartford City.....	6,487	65	10.0	46.3	30.8	15.4	30.8	....	....	....	123.3	30.8	....	....	30.2	75.6	....
Seymour.....	6,309	98	15.5	269.6	15.8	15.8	15.8	....	....	....	190.5	95.1	....	....	46.3	61.6	....
Lebanon.....	5,874	76	12.9	119.2	17.0	....	17.0	....	....	....	102.1	17.0	....	....	31.7	158.6	142.7
Mt. Vernon.....	5,735	90	15.6	174.4	69.7	17.4	....	....	....	....	34.8	139.5	....	....	17.0	34.0	34.0
Kendallville.....	5,629	66	11.7	124.4	....	....	17.7	....	....	....	71.0	35.5	....	....	62.3	52.3	....

TABLE No. 7—Continued.

CITIES	Popula- tion	Total Deaths Reported All Causes, Year 1914	Death Rate Per 1,000 Population	DEATHS FROM IMPORTANT CAUSES													Deaths of Non- Residents		
				Pulmonary Tuberculosis	Other Forms of Tuberculosis	Typhoid Fever	Diphtheria and Croup	Scarlet Fever	Measles	Whooping Cough	Lobar and Broncho- pneumonia	Diarrhea and Enteritis (Under 2 Years)	Cerebro-Spinal Fever	Acute Anterior Polyomyelitis	Influenza	Puerperal Septicæmia		Cancer	External Causes	Smallpox
Greensburg	5,572	107	19.2	89.7	53.8	71.8	17.9				215.4	17.9					89.7	179.5	.8
Portland	5,262	60	11.4	143.0	19.0		19.0				95.0				19.0	19.0	133.0	76.0	
Bluffton	5,187	64	12.3	96.4	19.2						19.2	192.8	38.5		19.2		57.8	57.8	
Nobleville	5,185	85	16.3	115.7		19.2			38.5		154.3	38.5					115.7	115.7	.3
Alexandria	5,096	74	14.5	117.8	39.2	19.6				39.2	58.8	19.6			19.6		98.1	255.1	.3
Rushville	5,077	76	14.9	78.8	59.0	19.7					109.5	63.4			42.3		98.5	188.2	
Martinsville	4,725	74	15.6	148.1			21.1				254.0	63.6					105.8	84.6	1.2
Aurora	4,714	67	14.2	127.3	21.2					21.2	148.5	63.6					42.4	109.7	
Franklin	4,698	83	17.6	191.6	63.8	42.5	42.5			42.5	127.7	21.2					42.5	63.8	
Warsaw	4,606	70	15.2	130.3	43.4				21.7		108.6	21.7			65.2	21.7	173.7	173.7	1.7
Decatur	4,599	59	13.0	130.5		43.4			43.4		65.2	21.7					152.2	21.7	
Sullivan	4,511	53	11.7	133.0		44.3	22.1				88.6	44.3					66.5	66.5	
Winchester	4,490	70	15.5	133.7	89.1		22.2				44.5	44.5			22.2		89.1	22.2	
Greenfield	4,448	56	12.5	22.4					22.4		179.8				22.4		44.9	89.9	
Boonville	4,310	71	16.4	185.6	23.2		46.4				116.0	69.6			92.8		69.6	139.2	
Garrett	4,241	51	12.0	70.7	23.5	23.5			23.5	47.1	23.5	23.5			23.5		188.6	47.1	2.3
Tipton	4,199	60	14.2	95.2	23.8	23.8					71.4	23.8		23.8			95.2	119.1	
Auburn	4,127	58	14.0	48.4	24.2	24.2					24.2			24.2	48.4		193.8	72.7	.2
Mitchell	4,102	53	12.9	105.0	24.3						73.1	73.1			48.7	24.3	146.3	122.8	
Lawrenceburg	3,930	47	11.9	152.7							127.2	50.8			50.8		101.8	50.8	
Plymouth	3,910	71	18.1	179.0		25.5	25.5				25.5	25.5			25.5		153.5	281.3	
Greencastle	3,883	46	11.9	156.3	52.1		52.1				52.1					26.0	104.2	130.3	.2
Tell City	3,641	56	15.3	192.2		54.9			54.9		164.8	37.4					54.9	192.2	
Columbia City	3,636	38	10.4	165.0							27.5						275.1	82.5	
Attica	3,467	39	11.2	115.4							144.2						144.2	144.2	

TABLE No. 8

*Annual Death Rates per 1,000 for Ten Years 1906 to 1915 Inclusive,
with Average of Cities 5,000 (Estimated) Population and Over,
Compared with Rural and State Rates.*

CITIES.	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915 State Population 2,824,237	Rate for 1915
Indianapolis.....	16.4	16.4	14.3	14.8	16.4	15.1	15.3	16.0	16.5	259,442	15.0
Evansville.....	15.1	13.8	14.4	15.0	13.4	15.5	13.4	13.9	13.4	73,903	13.2
Fort Wayne.....	16.3	15.7	14.6	13.7	13.0	11.7	12.3	13.3	11.9	71,457	12.3
Terre Haute.....	22.5	17.6	17.2	18.0	16.2	15.7	14.5	16.1	14.6	66,749	13.4
South Bend.....	16.8	16.1	16.3	17.3	14.1	14.1	12.6	13.6	11.9	61,812	11.1
Gary.....	.....	.....	.....	.....	16.2	17.8	22.3	17.7	10.6	32,802	11.6
Muncie.....	14.8	15.7	15.9	15.1	15.3	13.0	12.7	15.4	13.3	25,229	12.3
Hammond.....	17.9	17.2	14.6	13.8	14.6	13.4	15.5	17.4	16.2	24,341	15.0
Richmond.....	16.1	15.2	15.6	16.8	13.9	12.1	13.3	11.6	12.6	23,960	12.9
Anderson.....	13.3	13.1	11.2	14.5	14.6	13.5	13.0	9.9	13.6	23,396	12.2
East Chicago.....	18.5	32.2	26.5	29.0	15.3	15.7	16.7	24.3	17.0	21,370	17.2
Elkhart.....	14.0	14.2	13.4	14.2	13.9	10.8	11.3	12.8	13.2	20,918	13.0
Lafayette.....	18.6	16.0	17.7	19.4	16.6	16.9	19.4	18.1	19.3	20,865	13.0
Michigan City.....	14.3	15.4	12.1	11.5	14.7	13.2	13.0	14.1	13.3	20,695	12.2
New Albany.....	16.1	17.6	15.8	14.2	18.2	15.4	14.7	15.5	14.0	20,639	19.7
Logansport.....	16.0	14.8	18.4	16.6	15.9	13.3	16.0	16.0	15.4	20,186	15.2
Marion.....	13.6	11.5	9.6	11.0	12.5	13.2	14.1	16.1	15.5	20,167	15.2
Kokomo.....	20.0	18.1	19.7	17.3	15.1	12.2	14.3	15.5	15.4	19,570	13.0
Vincennes.....	20.0	18.5	18.6	15.4	19.2	17.1	15.9	15.9	14.9	16,761	13.1
Mishawaka.....	21.4	21.9	30.0	13.5	11.6	13.2	10.3	11.3	11.3	14,414	12.0
Peru.....	13.8	13.5	12.0	15.4	13.3	13.6	12.6	13.1	13.5	12,752	11.3
Laporte.....	20.7	19.8	15.0	15.9	17.8	16.2	20.8	16.7	12.7	11,925	12.7
Elwood.....	8.4	8.6	9.4	10.1	15.6	9.6	11.1	15.0	10.6	11,028	11.5
Huntington.....	13.4	12.2	14.0	14.6	18.6	12.3	13.6	13.7	12.7	10,584	12.0
Crawfordsville.....	20.3	22.1	19.7	22.4	15.0	13.2	14.5	14.4	15.6	10,459	15.7
Shelbyville.....	16.4	14.0	11.7	14.3	13.5	14.9	16.4	13.5	13.1	10,432	15.3
Jeffersonville.....	19.7	20.2	13.1	15.0	19.2	17.6	15.3	13.2	14.7	10,412	12.4
New Castle.....	.....	.....	.....	.....	14.9	13.6	11.4	11.0	13.4	10,050	12.7
Brazil.....	12.8	16.9	13.3	13.0	11.6	15.8	14.4	12.4	15.7	9,960	12.8
Bloomington.....	19.7	14.7	14.9	17.2	18.6	15.8	15.9	14.5	16.4	9,782	13.9
Bedford.....	18.0	19.2	16.8	14.8	15.8	12.5	13.8	10.8	17.9	9,756	11.9
Frankfort.....	18.7	17.6	17.2	14.8	10.4	12.1	13.6	13.8	15.9	9,246	15.0
Columbus.....	17.1	15.1	17.7	14.8	17.2	13.7	14.0	13.0	14.7	9,085	13.1
Goshen.....	18.1	16.3	15.3	13.0	13.2	13.2	12.4	11.7	16.0	8,794	14.2
Wabash.....	13.0	12.0	14.6	13.6	12.8	13.3	12.4	14.6	12.4	8,711	11.2
Connersville.....	15.3	15.3	18.6	16.6	13.3	13.5	14.3	14.1	11.7	8,098	14.5
Washington.....	16.5	11.5	13.2	11.0	12.8	14.1	13.2	19.1	12.9	7,854	13.2
Whiting.....	14.1	14.7	13.5	14.0	13.3	12.6	13.7	14.0	10.8	7,627	13.7
Clinton.....	.....	.....	.....	.....	13.8	13.6	20.1	19.0	15.2	7,553	14.1
Valparaiso.....	12.4	11.2	13.2	12.3	12.7	11.1	9.2	12.6	11.3	7,267	10.3
Linton.....	11.7	10.4	10.6	11.2	14.3	12.5	11.1	8.6	11.2	7,038	7.5
Madison.....	18.4	19.8	19.7	19.0	20.9	17.5	16.4	20.9	17.3	6,934	17.8
Princeton.....	13.9	14.5	19.2	18.9	16.1	15.0	14.6	18.2	15.2	6,608	14.0
Hartford City.....	8.8	11.9	9.8	11.2	15.2	16.4	10.8	9.6	13.2	6,487	10.0
Seymour.....	15.6	16.6	21.6	20.0	11.7	14.4	17.9	13.4	18.7	6,309	15.5
Lebanon.....	.....	.....	.....	.....	16.9	18.8	15.4	15.1	13.8	5,874	12.9
Mt. Vernon.....	17.9	18.8	15.1	11.5	15.2	16.3	12.8	13.6	11.4	5,735	15.6
Kendallville.....	.....	.....	.....	.....	.....	.....	11.6	9.2	10.9	5,620	11.7
Greensburg.....	21.2	14.7	17.5	20.0	14.7	20.8	22.1	16.5	20.9	5,572	19.2
Portland.....	.....	.....	.....	.....	16.3	15.0	13.9	14.2	14.1	5,262	11.4
Bluffton.....	.....	.....	.....	.....	.....	.....	16.6	14.3	11.8	5,187	12.3
Noblesville.....	.....	.....	10.9	11.3	12.6	15.1	13.9	12.8	13.9	5,185	16.3
Alexandria.....	6.9	7.9	9.9	12.1	11.1	14.1	11.9	10.7	10.6	5,096	14.5
Rushville.....	.....	.....	.....	.....	.....	.....	.....	13.0	16.6	5,077	14.9
URBAN.....	16.4	15.6	13.4	15.1	15.1	14.3	14.5	15.0	14.3	1,274,523	13.6
RURAL.....	13.3	11.6	11.6	11.1	12.3	12.0	11.9	11.8	11.6	1,549,714	11.6
STATE.....	13.5	13.4	12.5	13.2	13.5	13.0	13.1	13.2	12.8	2,824,237	12.5

TABLE No. 9.

Deaths of Males and Females, from Certain Causes, aged 14 Years and Over, engaged in Occupation in Indiana for the Year 1915.

OCCUPATION	Sex.	AGES										
		14-18	19-23	24-28	29-33	34-43	44-53	54-63	64-73	74-83	84 +	Un- known
All occupations.....	Males.....	227	425	527	522	1,185	1,526	2,074	2,672	2,277	642	9
	Females.....	54	69	59	43	92	86	78	66	48	11	1
Agriculture, forestry and animal husbandry.....	Males.....	96	119	118	116	257	443	779	1,318	1,433	454	1
	Females.....						1	1	4	2	1	
Dairy farmers.....	Males.....		1			1	1	1				
	Females.....											
Dairy farm laborers.....	Males.....				1							
	Females.....											
Farmers.....	Males.....	20	71	81	82	193	360	646	1,196	1,357	442	1
	Females.....						1	1	4	2	1	
Farm laborers.....	Males.....	76	46	36	33	59	75	122	102	61	9	
	Females.....											
Farm laborers (home farm).....	Males.....	43	14	4	3	2	1					
	Females.....											
Farm laborers (working out).....	Males.....	23	32	32	30	57	74	122	102	61	9	
	Females.....											
Farm, dairy farms, garden, orchard, etc., foremen.....	Males.....											
	Females.....											
Farm foremen.....	Males.....								1			
	Females.....											

TABLE No. 9—Continued.

[illegible]

Cabinet make n.	Males Females	1	2	3	4	5	6	7	8	9
Carpenters.....	Males Females	1	2	6	13	23	51	75	117	108
Compositors, linotypers and typesetters.....	Males Females	1 2	4	4	2	3	5	7	4	1
Coopers.....	Males Females			2		2	2	1	3	13
Dressmakers and seamstresses (not in factory).....	Males Females	3	1	8	1	11	10	15	9	7
Electricians and electrical engineers.....	Males Females		5	5	6	9	2	3	2	
Lithographers.....	Males Females		1							
Engineers (mechanical).....	Males Females					1	1	1	3	1
Engineers (stationary).....	Males Females		1	4		9	8	19	16	4
Filers, grinders, buffers and polishers (metal).....	Males Females		1	3		2	3	3		
Buffers and polishers.....	Males Females						1			
Filers.....	Males Females			1				1		
Grinders.....	Males Females		1	2		2	2	2		
Fremmen (except locomotive and fire department).....	Males Females			2	2	5	4	1	4	1
Foremen and overseers (manufacturing).....	Males Females			2	1	11	5	11	1	1

TABLE No. 9—Continued.

OCCUPATION	Sex.	AGES									
		14-18	19-22	24-28	29-33	34-43	44-53	54-63	64-73	74-83	84 + Un- known
Furnace men, smelter men, heaters, pourers, etc.....	Males..... Females.....			1	3	1	1	1		1	
Furnace men and smelter men.....	Males..... Females.....							1			
Heaters.....	Males..... Females.....			1	2	1	1				
Puddlers.....	Males..... Females.....				1					1	
Glass blowers.....	Males..... Females.....			5	4	8	4	2		1	
Jewelers, watchmakers, gold- smiths and silversmiths.....	Males..... Females.....		1	1		1	2	1	2	2	
Goldsmiths and silversmiths.....	Males..... Females.....								1	1	
Jewelers and watchmakers (not in factory)....	Males..... Females.....		1	1		1	2	1	1	1	
Laborers (N. O. S.) building and hand trades.....	Males..... Females.....	37	65	105	82	181	252	238	272	142	15
General and not specified laborers.....	Males..... Females.....	36	64	104	82	178	248	224	270	142	15
Helpers in building and hand trades.....	Males..... Females.....	1	1	1		3	4	4	2		

TABLE No. 9—Continued.

OCCUPATION	Sex.	AGES									
		14-18	19-23	24-28	29-33	34-43	44-53	54-63	64-73	74-83	84 + Un- known
Glass factories.....	Males..... Females.....	1					3	1	1		1
Patteries.....	Males..... Females.....					2	1	1	1		1
Clothing industries.....	Males..... Females.....	1	1			1 1	4	1		1	
Hat factories (felt).....	Males..... Females.....						1			1	
Suit, coat, cloak and overall factories.....	Males..... Females.....						1				
Other clothing factories.....	Males..... Females.....	1	1			1 1	2	1			
Food industries.....	Males..... Females.....	2 3	1 1	1 1	1		1	1	3		
Butter and cheese factories.....	Males..... Females.....	1							2		
Candy factories.....	Males..... Females.....	1 3	1	1	1						
Other food factories.....	Males..... Females.....			1			1	1	1		
Harness and saddle industries.....	Males..... Females.....		2				1	4	6	2	3

TABLE No. 9—Continued.

OCCUPATION	Sex.	AGES										Un- known
		14-18	19-23	24-28	29-33	34-43	44-53	54-63	64-73	74-83	84 +	
Other wood-working factories.....	Males..... Females.....	1				1	1	1	4	3		
Paper and pulp mills.....	Males..... Females.....	1			1	1	1					
Printing and publishing.....	Males..... Females.....		2		2		1					
Shoe factories.....	Males..... Females.....		2			2			1	1		
Tanneries.....	Males..... Females.....			1	1		1	3	1	7	3	
Weaver in woolen and worsted mills.....	Males..... Females.....					1						
Other textile mills.....	Males..... Females.....									2	1	
Other occupation in cotton mills.....	Males..... Females.....	1							1			
In woolen worsted mills.....	Males..... Females.....							1				
In other textile mills.....	Males..... Females.....	2	1			1			1	1		
Other industries.....	Males..... Females.....	7	8	7	8	10	5	12	12	11	1	
Electrical supply factories.....	Males..... Females.....	3	3	4	4	4	4	5	6	5		

Railroad transportation (selected occupation).....		Males	Females	5	9	9	16	13	20	10	5	3
Baggagemen.....	Males.....								1	1		
	Females.....											
Boiler washers and engine builders.....	Males.....				1				2	1		
	Females.....											
Brakemen.....	Males.....			4	5	5	5	2	3			
	Females.....											
Conductors (steam railroads).....	Males.....				3	3	6	7	9	6	1	
	Females.....											
Conductors (street railroads).....	Males.....			1	4		2	1		1		
	Females.....											
Foremen and overseers.....	Males.....						3	3	5	1	4	3
	Females.....											
Laborers.....	Males.....	2	2	3	2	2	14	11	8	4	8	1
	Females.....											
Steam railroads.....	Males.....	2	2	3	2	2	13	11	6	4	7	1
	Females.....											
Street railroad.....	Males.....						1		2		1	
	Females.....											
Locomotive engineers.....	Males.....			3	1	1	14	8	15	16	7	2
	Females.....											
Locomotive firemen.....	Males.....			1	6	1	3		1	3		
	Females.....											
Motormen.....	Males.....			1	2	3	4	3	3			
	Females.....											
Officials and superintendents (steam railroad).....	Males.....				1	1	1	1	2			1
	Females.....											
Switchmen, flagmen and yard men.....	Males.....			1	5	5	7	7	15	22	2	
	Females.....											
Switchmen and flagmen (steam railroad).....	Males.....			5	5	5	2	5	12	21	2	
	Females.....											

TABLE No. 9—Continued.

OCCUPATION	Sex.	AGES										
		14-18	19-23	24-28	29-33	34-43	44-53	54-63	64-73	74-83	84 +	Un- known
Switchmen and flagmen (street railroad).....	Males..... Females.....					1	1					
Yardmen (steam railroad).....	Males..... Females.....		1			2	1	3	1			
Ticket and station agents.....	Males..... Females.....			1			1	2	1			
Express, post, telegraph and telephone agent (selected occupations).....	Males..... Females.....							1	1			
Express messengers and railway mail clerks.....	Males..... Females.....	1		2		3	1	4	2	3		
Express messengers.....	Males..... Females.....	1						2				
Railway mail clerks.....	Males..... Females.....			2		3	1	2	2	3		
Mail carriers.....	Males..... Females.....				4	4	3	9	13	2		
Telegraph and telephone linemen.....	Males..... Females.....		3	2	2	2	1	1	1			
Telegraph messengers.....	Males..... Females.....	3	1									
Telegraph operators.....	Males..... Females.....		1	3	2	9	3	3	2			
Telephone operators.....	Males..... Females.....					1		1				
Telephone operators.....	Males..... Females.....	6	4	2								

TABLE No. 9--Continued.

OCCUPATION	Sex.	AGES											84 +	Un- known
		14-13	19-23	24-28	29-33	34-43	44-53	54-63	64-73	74-83				
Bankers, brokers and money lenders	Males Females		1	1	1	4	10	11	14	9	1			
Bankers and bank officials	Males Females					2	7	4	7	5				
Commercial brokers and commission men	Males Females				1	2	1	6	4	2				
Stockbrokers	Males Females	1	1				1	1						
Brokers not specified	Males Females						1		3	2	1			
Commercial travelers	Males Females	1	2	6	9	23	24	20	8	1				
Decorators, drapers and window dressers	Males Females								1					
Delivery men	Males Females	3	1	2	3	1	1							
Bakeries and laundries	Males Females	1			1									
Stores	Males Females	2	1	2	2	1	1		1					
Floorwalkers, foremen and over- seers	Males Females				1			2	1					
Floorwalkers and foremen in stores	Males Females													

Officials and inspectors (city and county).....	Males..... Females.....	2			5	7	11	11	1	
Officials and inspectors (city).....	Males..... Females.....	2			2	3	1	6	1	
Officials and inspectors (county).....	Males..... Females.....				3	4	10	5		
Officials and inspectors (State and United States).....	Males..... Females.....			1	1	2		7	2	
Officials and inspectors (state).....	Males..... Females.....			1	1			2	1	
Officials and inspectors (United States).....	Males..... Females.....					2		5	1	
Police men.....	Males..... Females.....			3	4	5	5	4	2	
Soldiers, sailors and marines.....	Males..... Females.....	1		1			1			
Other purauita.....	Males..... Females.....					2				
Professional service.....	Males..... Females.....	3	14	22	18	41	63	91	100	24
		1	14	5	8	16	10	10	15	8
Actors.....	Males..... Females.....		2		3	1				1
Architects.....	Males..... Females.....				1	2	2	1		
Artists, sculptors and teachers of art.....	Males..... Females.....			1		1	1	2	1	
Editors and reporters.....	Males..... Females.....	2		1			3	5	4	2
Chemists, assayers and metallurgists.....	Males..... Females.....				2					
					1		1			

TABLE No. 9—Continued.

OCCUPATION	Sex	AGES									
		14-18	19-23	24-28	29-33	34-43	44-53	54-63	64-73	74-83	84 +
Civil and mining engineers and surveyors.....	Males.....				1	1		1	3	1	
	Females.....										
Civil Engineers and surveyors.....	Males.....				1	1		1	2	1	
	Females.....										
Mining engineers.....	Males.....								1		
	Females.....										
Clergymen.....	Males.....			4	1	3	9	17	23	22	10
	Females.....										
College presidents and professors.....	Males.....					1				1	
	Females.....										
Dentists.....	Males.....		1		1	6	2	3	2	3	1
	Females.....										
Designers, draftsmen and inventors.....	Males.....		2					1	1	1	
	Females.....										
Designers.....	Males.....							1			
	Females.....										
Draftsmen.....	Males.....		2								
	Females.....										
Inventors.....	Males.....									1	
	Females.....										
Lawyers, judges and justices.....	Males.....			3	2	4	10	20	15	7	2
	Females.....									1	
Musicians and teachers of music.....	Males.....	1	2	1	1	4	3	4	2	1	3
	Females.....		1			3		1	1	2	

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TABLE No. 9—Continued.

OCCUPATION	Sex.	AGES									
		14-18	19-23	24-28	29-33	34-43	44-53	54-63	64-73	74-83	84 +
Attendants and helpers (professional service)...	Males..... Females.....		1	1	1		2 1				
Domestic and personal service.....	Males..... Females.....	7 28	23 31	25 26	41 23	90 43	96 56	84 44	38 32	16 20	1 7
Barbers, hairdressers and manicurists.....	Males..... Females.....	1	3	3 1	11	16	12 1	17 2	8	1	
Bartenders.....	Males..... Females.....		2	3	10	22	17	6	1		
Billiard room, dance hall, skating rink, etc., keepers.....	Males..... Females.....				1		2	1			
Billiard and pool room keepers.....	Males..... Females.....				1		2				
Dance hall, skating rink, etc., keepers.....	Males..... Females.....							1			
Boarding and lodging house keepers.....	Males..... Females.....						2 1	1 1	1 1	1 1	1
Charwomen and cleaners.....	Males..... Females.....							1	1		
Elevator tenders.....	Males..... Females.....			1	1		1			1	
Hotel keepers and managers.....	Males..... Females.....			1		4	6 2	2 1	5 2	4	1
Housekeepers and stewards.....	Males..... Females.....			1	3	1	2 1	2 1	2 1	1 2	

Un-
known

Janitors and sextons.....	Males Females.....	1	1	1	4	9	11	7	3	.....
Labors (domestic and professional service).....	Males Females.....	.....	.....	.....	.....	1	1	.....	1	.....
Laundresses and laundresses (not in laundry).....	Males Females.....	1	1	1	3	2	5	2	1	1
Laundry operatives.....	Males Females.....	1	2	.....	.....	1	1	.....	.....	.....
Laundry owners, officials and managers.....	Males Females.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Nurses (not trained).....	Males Females.....	1	2	2	.....	2	1	1	3	2
Porters (except in stores).....	Males Females.....	1	2	3	9	10	8	6	.....	.....
Restaurant, cafe and lunch room keepers.....	Males Females.....	.....	1	1	.....	2	3	4	2	.....
Saloon keepers.....	Males Females.....	1	1	.....	4	14	17	19	9	2
Servants.....	Males Females.....	2	6	5	3	11	11	6	1	2
Ball boys, chore boys, etc.....	Males Females.....	24	26	20	18	36	35	26	24	4
Cooks.....	Males Females.....	1	1	.....	.....	.....	.....	.....	.....	.....
Other servants.....	Males Females.....	1	2	1	1	7	32	1	2	4
Waiters.....	Males Females.....	2	5	5	1	3	2	3	.....	.....
Cemetery keepers.....	Males Females.....	.....	2	1	.....	.....	2	2	1	.....

TABLE No. 9—Continued.

OCCUPATION	Sex.	AGES									
		14-18	19-23	24-28	29-33	34-43	44-53	54-63	64-73	74-83	84 + Un- known
Umbrella makers and scissors grinders.	Males.....					1					
	Females.....										
Other occupations.....	Males.....							1			
	Females.....										
Clerical occupations.....	Males.....	15	27	25	25	40	33	27	36	16	3
	Females.....	3	10	12	5	8	2				
Agents, canvassers and collectors	Males.....				2	3	5	4	7	3	
	Females.....										
Agents.....	Males.....				2	1	5	1	5		
	Females.....										
Canvassers.....	Males.....					1		2	1		
	Females.....										
Collectors.....	Males.....					1		1	1	3	
	Females.....										
Bookkeepers, cashiers and accountants.	Males.....	2	10	9	9	14	12	9	10	7	2
	Females.....	1	1	3	1	6					
Clerks (except clerks in stores).	Males.....	9	15	14	12	22	16	14	19	6	1
	Females.....	1	5	3	3	1	1				
Shipping clerks.....	Males.....		1		1	2	3	1	2		
	Females.....										
Other clerks.....	Males.....	9	14	14	11	20	13	13	17	6	1
	Females.....	1	5	3	3	1	1				
Messenger, errand and office boys.	Males.....	4									
	Females.....			1							
Stenographers and typewriters	Males.....		2	2	2	1					
	Females.....	1	4	5	1	1	1				

TABLE No. 9—Continued.

OCCUPATION	Sex.	DISEASES																	
		Typhoid Fever	Tuberculosis of Lungs	Cancer	Rheumatism	Diabetes	Alcoholism	Lead Poisoning	Other (Occupational and Chronic Poisonings	Apoplexy and Paralysis	Other Diseases Nervous System	Heart Disease	Other Diseases Circulatory System	Bronchitis	Pneumonia, All Forms	Pharynx	Asthma	Other Diseases Respiratory System	
Farm, dairy farms, garden, orchard, etc., foremen.	Males																		
	Females																		
Farm foremen	Males			1								1			1				
	Females																		
Fishermen and oystermen	Males																		
	Females																		
Gardeners, florists, fruit growers and nurserymen	Males	1	3	2						5		7	2		4				
	Females																		
Florists	Males																		
	Females																		
Fruit growers and nurserymen	Males	1	1							2		2			2				
	Females																		
Gardeners	Males		1	2						3		5	2		1				
	Females																		
Landscape gardeners	Males		1												1				
	Females																		
Garden, greenhouse, orchard and nursery laborers	Males			1						1		1							
	Females																		
Garden laborers	Males			1						1		1							
	Females																		

TABLE No. 9—Continued.

OCCUPATION	Sex.	DISEASES																
		Typhoid Fever	Tuberculosis of Lungs	Cancer	Rheumatism	Diabetes	Alcoholism	Lead Poisoning	Other Occupational and Chronic Poisonings	Apoplexy and Paralysis	Other Diseases Nervous System	Heart Disease	Other Diseases Circulatory System	Bronchitis	Pneumonia, All Forms	Pleurisy	Asthma	Other Diseases Respiratory System
Operators.	Males..																	
	Females..									1								
Coal mine operatives	Males..	2	21	8	2	2				8	5	19	4	2	18	2	2	
	Females..																	
Quarry operatives	Males..					1				2		1						1
	Females..		2															
Oil and gas well operatives	Males..									1								
	Females..																	
Manufacturing and mechanical industries	Males..	60	578	195	15	54	26	4	5	342	83	552	93	27	276	8	12	13
	Females..	3	23	10		2				8	1	18		1	8			
Apprentices	Males..		1	1														
	Females..		1	1														
Apprentices to building and hand trades.	Males..		1															
	Females..																	
Other apprentices	Males..			1														
	Females..																	
Bakers	Males..	1	8							2		6			1			
	Females..																	
Blacksmiths, foremen and hammermen	Males..																	
	Females..	1	2	4		3				19		28	3		6		1	1

Blacksmiths.....	Males.....	2	4	3	19	28	3	6	1
	Females.....								
Forgemen, hammermen and welders.....	Males.....	1							
	Females.....								
Boilermakers.....	Males.....	3	1		2	2		1	
	Females.....								
Brick and stone masons.....	Males.....	11	1		12	8	1	5	
	Females.....								
Building and building contractors.....	Males.....	4	8	4	10	2	14	5	
	Females.....								
Butchers and dressers (slaughter house).....	Males.....	1				1			
	Females.....								
Cabinet makers.....	Males.....	1	7	4	7	1	6	3	1
	Females.....								
Carpenters.....	Males.....	3	32	17	2	62	11	93	1
	Females.....							6	
Compositors, linotypers and typesetters.....	Males.....	10	2		1	3	2	6	1
	Females.....	2						1	
Coopers.....	Males.....	1	2	1		2	5	2	1
	Females.....								
Dressmakers and seamstresses (not in factory).....	Males.....								
	Females.....	2	10	7		6		1	5
Electricians and electrical engineers.....	Males.....	13	2	1	1	1	2	1	
	Females.....								
Lithographers.....	Males.....	1							4
	Females.....								
Engineers (mechanical).....	Males.....	1	3		1	1			
	Females.....								
Engineers (stationary).....	Males.....	9	4	2	10	9	2	1	5
	Females.....								

TABLE No. 9—Continued.

OCCUPATION	Sex.	DISEASES																
		Typhoid Fever	Tuberculosis of Lungs	Cancer	Rheumatism	Diabetes	Alcoholism	Lead Poisoning	Other Occupational and Chronic Poisonings	Apoplexy and Paralysis	Other Diseases Nervous System	Heart Disease	Other Diseases Circulatory System	Bronchitis	Pneumonia, All Forms	Pleurisy	Asthma	Other Diseases Respiratory System
Blast furnaces and rolling mills.....	Males.....	3	7				1					1						
	Females.....																	
Car and railroad shops.....	Males.....		1						1									
	Females.....																	
Wagon and carriage factories.....	Males.....		1								1							
	Females.....																	
Other iron and steel works.....	Males.....	1	1	1					4	1	4	1			5			
	Females.....																	
Other metal industries.....	Males.....		1												1			
	Females.....																	
Brass mills.....	Males.....		1															
	Females.....																	
Tinware and enamelware factories.....	Males.....														1			
	Females.....																	
Lumber and furniture industries.....	Males.....	1	4							1	1							
	Females.....																	
Furniture, piano and organ factories.....	Males.....		1							1								
	Females.....																	
Saw and planing mills.....	Males.....		1															
	Females.....																	

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TABLE No. 9—Continued.

OCCUPATION	Sex.	DISEASES																	
		Typhoid Fever	Tuberculous of Lungs	Cancer	Rheumatism	Diabetes	Alcoholism	Lead Poisoning	Other Occupational and Chronic Poisonings	Apoplexy and Paralysis	Other Diseases Nervous System	Heart Disease	Other Diseases Circulatory System	Bronchitis	Pneumonia, All Forms	Pleurisy	Asthma	Other Diseases Respiratory System	
Plumbers and gas and steam fitters Pressmen (printing) Rollers and roll bands (metal) Roofers and slaters Sawyers Semi-skilled operatives (N. O. S.) chemical industries Paint factories Powder, cartridge, fireworks, etc. (factory) Cigar and tobacco factories Clay, glass and stone industries	Males Females	1	7	2						1	6	2		2			1	Other Diseases Respiratory System	
	Males Females		1															Asthma	
	Males Females		2	1														Pleurisy	
	Males Females									1					1			Pneumonia, All Forms	
	Males Females																	Bronchitis	
	Males Females																	Other Diseases Circulatory System	
	Males Females																	Heart Disease	
	Males Females																	Other Diseases Nervous System	
	Males Females																	Apoplexy and Paralysis	
	Males Females																	Other Diseases	
Males Females																	Other Diseases		
Males Females																		Other Diseases	
Males Females																		Other Diseases	
Males Females																		Other Diseases	
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Males Females																		Other Diseases	
Males Females																		Other Diseases	
Males Females																			

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Street cleaning.....	Males.....									1							
	Females.....																
Proprietors, officials and managers (N. O. S.) of telegraph and telephone companies.....	Males.....	1														1	
	Females.....																
Other occupations (semi-skilled).....	Males.....	1	4													7	3
	Females.....																2
Steam railroad.....	Males.....	1	4													7	3
	Females.....																2
Street railroad.....	Males.....																
	Females.....																
Trade.....	Males.....	9	85	71	2	34	5									151	35
	Females.....		4	2		1										1	2
Bankers, brokers and money len- ders.....	Males.....	2	4			2										7	4
	Females.....																9
Bankers and bank officials.....	Males.....	1	2			1										4	3
	Females.....																2
Commercial brokers and commission men.....	Males.....	1	2			1										2	3
	Females.....																1
Stockbrokers.....	Males.....															1	
	Females.....																
Brokers not specified.....	Males.....															1	4
	Females.....																1
Commercial Travelers.....	Males.....	1	8	4		2										16	3
	Females.....																15
Decorators, drapers and window dressers.....	Males.....																1
	Females.....																
Delivery men.....	Males.....	2					1										
	Females.....																
Bakeries and laundries.....	Males.....																
	Females.....																
Stores.....	Males.....	2					1										
	Females.....																

TABLE No. 9.—Continued.

OCCUPATION	Sex	DISEASES																
		Typhoid Fever	Tuberculosis of Lungs	Cancer	Rheumatism	Diabetes	Alcoholism	Lead Poisoning	Other Occupational and Chronic Poisonings	Apoplexy and Paralysis	Other Diseases Nervous System	Heart Disease	Other Diseases Circulatory System	Bronchitis	Pneumonia, All Forms	Pleurisy	Asthma	Other Diseases Respiratory System
Floorwalkers, foremen and overseers.	Males			1														
	Females		1							1								
	Males			1														
	Females		1															
	Males																	
	Females																	
	Males																	
	Females																	
	Males																	
	Females																	
Floorwalkers and foremen in stores.	Males																	
	Females																	
Foremen; warehouse, stockyards, etc.	Males																	
	Females																	
Inspectors, gaugers and samplers.	Males																	
	Females																	
Insurance agents and officials.	Males	1	2	2		2				4	3	6	4		3			
	Females																	
Laborers in coal and lumber yards, warehouses, etc.	Males										1	1	1					
	Females																	
Coal yards.	Males											1						
	Females																	
Elevators.	Males										1							
	Females																	
Lumber yards.	Males																	
	Females																	
Laborers, porters and helpers in stores.	Males																	
	Females																	
			1							1		1						

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TABLE No. 9—Continued.

OCCUPATION	Sex.	DISEASES																
		Typhoid Fever	Tuberculosis of Lungs	Cancer	Rheumatism	Diabetes	Alcoholism	Lead Poisoning	Other (Occupational and Chronic Poisonings	Apoplexy and Paralysis	Other Diseases Nervous System	Heart Disease	Other Diseases Circulatory System	Bronchitis	Pneumonia, All Forms	Pleurisy	Asthma	Other Diseases Respiratory System
Draftsmen.....	Males.....		1												1			
	Females.....																	
Inventors.....	Males.....																	
	Females.....																	
Lawyers, judges and justices.....	Males.....		7	3		2				14	3	9	4	1	1			1
	Females.....																	
Musicians and teachers of music.....	Males.....		4							4		4			1	1		
	Females.....		3							1		1						
Photographers.....	Males.....		2	1	1	1						2			1			
	Females.....		1															
Physicians and surgeons.....	Males.....	1	5	6	1	7		2	16	6	24	5	1	6				
	Females.....																	
Showman.....	Males.....		5	1						1	2							
	Females.....																	
Teachers.....	Males.....	2	7						3	1	8	2		2				
	Females.....		11	8	1	1			5	2	10	1						
Teachers (athletics, dancing, etc.).....	Males.....																	
	Females.....																	
Teachers (school).....	Males.....	2	7	8	1	1				3	1	8	2		2			
	Females.....		11						5	2	10	1						

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TABLE No. 9—Continued.

OCCUPATION	Sex	DISEASES																
		Typhoid Fever	Tuberculosis of Lungs	Cancer	Rheumatism	Diabetes	Alcoholism	Lead Poisoning	Other Occupational and Chronic Poisonings	Apoplexy and Paralysis	Other Diseases Nervous System	Heart Disease	Other Diseases Circulatory System	Bronchitis	Pneumonia, All Forms	Pleurisy	Asthma	Other Diseases Respiratory System
Agents, canvassers and collectors.	Males	2				1				7	4	2	1		1			
	Females																	
Agents	Males					1				5	3				1			
	Females																	
Canvassers	Males									2	1							
	Females																	
Collectors	Males	2										2	1					
	Females																	
Bookkeepers, cashiers and accountants	Males	1	21	2	1	2	1			10	4	11	2		5			
	Females		5	2								1						
Clerks (except clerks in stores)	Males	3	23	10		2	1			10	3	20	2	2	10			1
	Females	1	4									2			1	1		
Shipping clerks	Males						1			2					3			
	Females																	
Other clerks	Males	3	23	10		2				8	3	20	2	2	7			
	Females	1	4									2			1	1		
Messenger, errand and office boys	Males	1	1															
	Females																	
Stenographers and typewriters	Males	1													2			
	Females		4									2						

TABLE No. 9—Continued.

OCCUPATION	Sex.	DISEASES											TOTAL				
		Cirrhosis of Liver	Other Diseases of Liver	Peritonitis	Appendicitis	Hernia	Other Diseases of Digestive System	Bright's Disease	Childbirth	Bulicide	Poisonous Gases and Other Accidental Poisonings	Other Accidents and Causes	All Other Causes	White	Colored	Male	Female
Operators.....	Males.....							1						2			2
	Females.....																
	Males.....	5			4	2	6	12		3		73	16	216		216	216
	Females.....																
	Males.....													7		7	7
	Females.....																
	Males.....							1						2		2	2
	Females.....																
	Males.....	72	18	4	34	9	102	335	2	87	15	386	335	3,527	205	3,732	3,732
	Females.....	1		1	1		2	7	1	3		7	11	107	1		108
Apprentices.....	Males.....													3		3	3
	Females.....																
	Males.....													1		1	1
	Females.....																
	Males.....													2		2	2
	Females.....																
	Males.....													2		2	2
	Females.....																
	Males.....													29		29	29
	Females.....																
Blacksmiths, foremen and hammermen.....	Males.....	4				2	3	10		1		7	10	104		104	104
	Females.....																

Blacksmiths.....	Males..... Females.....	4	.....	.....	.....	.....	.....	.....	1	.....	7	10	103	.....	103	.....
Forgemen, hammermen and welders.....	Males..... Females.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....
Boilermakers.....	Males..... Females.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	13	.....	13	.....
Brick and stone masons.....	Males..... Females.....	.....	.....	.....	.....	.....	.....	.....	2	.....	6	6	59	.....	59	.....
Building and building contractors.....	Males..... Females.....	3	.....	.....	.....	.....	.....	.....	1	.....	4	4	72	.....	72	.....
Butchers and dressers (slaughter house).....	Males..... Females.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	3	.....
Cabinet makers.....	Males..... Females.....	2	.....	.....	.....	.....	.....	.....	1	.....	1	2	49	.....	49	.....
Carpenters.....	Males..... Females.....	3	2	.....	.....	.....	.....	.....	1	.....	32	35	420	1	431	.....
Compositors, linotypers and typesetters.....	Males..... Females.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	4	35	.....	35	3
Coopers.....	Males..... Females.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	27	.....	27	.....
Dressmakers and seamstresses (not in factory).....	Males..... Females.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	66
Electricians and electrical engineers.....	Males..... Females.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	5	32	.....	32	.....
Lithographers.....	Males..... Females.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....
Engineers (mechanical).....	Males..... Females.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	7	.....	7	.....
Engineers (stationary).....	Males..... Females.....	.....	1	.....	.....	.....	.....	.....	1	.....	9	3	62	.....	62	.....

TABLE No. 9—Continued.

OCCUPATION	Sex.	DISEASES											TOTAL				
		Cirrhosis of Liver	Other Diseases of Liver	Peritonitis	Appendicitis	Hernia	Other Diseases Digestive System	Bright's Disease	Childbirth	Suicide	Poisonous Gases and Other Accidental Poisonings	Other Accidents and Causes	All Other Causes	White	Colored	Male	Female
Fillers, grinders, buffers and polishers (metal).....	Males.....								2			1		12		12	
	Females.....																
Buffers and polishers.....	Males.....						1							1		1	
	Females.....																
Filers.....	Males.....						1							2		2	
	Females.....																
Grinders.....	Males.....									2	1			8	1	9	
	Females.....																
Firemen (except locomotive and fire depart- ment).....	Males.....							3		2	1	3	1	19		19	
	Females.....																
Foremen and overseers (manufacturing).....	Males.....	1		1	1		2		2		7	1		32		32	
	Females.....																
Furnace men, smelter men, heaters, pourers, etc.....	Males.....	1						1					1	8		8	
	Females.....																
Furnace men and smeltersmen.....	Males.....													1		1	
	Females.....																
Heaters.....	Males.....							1						5		5	
	Females.....																
Puddlers.....	Males.....	1												2		2	
	Females.....																

Glassblowers.....	1							2	1	2	6	24	24
Males.....													
Females.....													
Jewelers, watchmakers, goldsmiths and silversmiths.....	1					1	2			1	3	10	10
Males.....													
Females.....													
Goldsmiths and silversmiths.....	1											2	2
Males.....													
Females.....													
Jewelers and watchmakers (not in factory).....							1	2		1	3	8	8
Males.....													
Females.....													
Laborers (N. O. S.): building and hand trades.....	26	8	1	9	2	38	100		37	3	103	147	1,198
Males.....													192
Females.....													1,390
General and not specified laborers.....	26	8	1	9	2	38	99		37	3	157	145	1,187
Males.....													187
Females.....													1,374
Helpers in building and hand trades.....							1			5	2	11	5
Males.....													16
Females.....													
Chemical industries.....										4		4	4
Males.....													
Females.....													
Powder, cartridge, fireworks, etc., factories.....										2		2	2
Males.....													
Females.....													
Other chemical factories.....										2		2	2
Males.....													
Females.....													
Clay, glass and stone industries.....	1	1		1		1	1			5	3	20	3
Males.....													23
Females.....													
Brick, tile and terra-cotta factories.....	1	1				1	1			3	1	10	1
Males.....													11
Females.....													
Glass factories.....				1						2		6	2
Males.....													8
Females.....													
Lime, cement and gypsum factories.....											2	4	4
Males.....													
Females.....													
Iron and steel industries.....	1		2			2	3		4	24	4	78	2
Males.....													80
Females.....													
Automobile factories.....							1	1		1		6	1
Males.....													7
Females.....													

TABLE No. 9—Continued.

OCCUPATION	Sex	DISEASES											TOTAL				
		Cirrhosis of Liver	Other Diseases of Liver	Peritonitis	Appendicitis	Hernia	Other Diseases Digestive System	Bright's Disease	Childbirth	Suicide	Poisonous (Gases and Other Accidents) and Poisonings	Other Accidents and Causes	All Other Causes	White	Colored	Male	Female
Blast furnaces and rolling mills	Males							1		1		18	1	35			35
	Females																
Car and railroad shops	Males	1			2				2			2	2	11			11
	Females																
Wagon and carriage factories	Males						1									3	3
	Females																
Other iron and steel works	Males						1		1			3	1	23	1	24	24
	Females													2		2	
Other metal industries	Males																
	Females																
Brass mills	Males													1		1	1
	Females																
Tinware and enamelware factories	Males													1		1	1
	Females																
Lumber and furniture industries	Males	1		1			1			1		1	1	13		13	13
	Females																
Furniture, piano and organ factories	Males													2		2	2
	Females																
Saw and planing mills	Males				1		1			1		1	1	7		7	7
	Females																

TABLE No. 9—Continued.

OCCUPATION	Sex.	DISEASES												TOTAL			
		Cirrhosis of Liver	Other Diseases of Liver	Peritonitis	Appendicitis	Hernia	Other Diseases Digestive System	Bright's Disease	Childbirth	Suicide	Poisonous Gases and Other Accidents Poisoning	Other Accidents and Causes	All Other Causes	White	Colored	Male	Female
Tanneries.....	Males..... Females.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	2	.....	2	.....
Other factories.....	Males..... Females.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	3	.....	11	.....	11	.....
Mechanists, millwrights and tool- makers.....	Males..... Females.....	4	.....	.....	1	.....	5	9	.....	2	.....	10	8	144	.....	144	1
Machinists and millwrights.....	Males..... Females.....	4	.....	.....	1	.....	5	8	.....	2	.....	17	8	141	.....	141	.....
Toonmakers and die setters and sinkers.....	Males..... Females.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	2	.....	3	.....	3	.....
Managers and superintendents (manufacturing)	Males..... Females.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	1	9	.....	9	.....
Manufacturers and officials.....	Males..... Females.....	1	.....	.....	3	.....	1	8	.....	1	.....	4	5	74	.....	74	.....
Manufactures.....	Males..... Females.....	1	.....	.....	3	.....	1	7	.....	1	.....	3	5	70	.....	70	.....
Officials.....	Males..... Females.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	4	.....	4	.....
Mechanics (N. O. S.).....	Males..... Females.....	.....	.....	.....	.....	1	1	3	.....	1	.....	3	2	35	.....	35	.....

TABLE No. 9—Continued.

OCCUPATION	Sex	DISEASES											TOTAL		
		Cirrhosis of Liver	Other Diseases of Liver	Hepatitis	Ternia	Other Diseases Digestive System	Bright's Disease	Childbirth	Suicide	Poisonous Gases and Other Accidental Poisonings	Other Accidents and Causes	All Other Causes	White	Colored	Male
Plumbers and gas and steam fitters.....	Males..... Females.....	1	1	1		1	2		1		7	2	38		38
Pressmen (printing).....	Males..... Females.....												1		1
Rollers and roll hands (metal).....	Males..... Females.....												3		3
Roofers and slaters.....	Males..... Females.....												2		2
Sawyers.....	Males..... Females.....												2		2
Semi-skilled operatives (N. O. S.) chemical industries.....	Males..... Females.....									1			2		2
Paint factories.....	Males..... Females.....												1		1
Powder, cartridge, fireworks, etc. (factory).....	Males..... Females.....									1			1		1
Cigar and tobacco factories.....	Males..... Females.....	3	1	1		2			3			4	30		30
Clay, glass and stone industries.....	Males..... Females.....	2									1	4	15		15

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	2				1	4	2	3	23	23
Furniture, piano and organ factories	Males									
	Females									
Saw and planing mills	Males				1				3	3
	Females									
Other wood-working factories	Males	1		1	1	1	1		11	11
	Females									
Paper and pulp mills	Males				1			2	4	4
	Females									
Printing and publishing	Males							2	5	5
	Females									
Shoe factories	Males	1		1					6	6
	Females									
Tanneries	Males				1				16	1 17
	Females									
Weaver in woolen and worsted mills	Males				7				1	1
	Females									
Other textile mills	Males							1	3	3
	Females									
Other occupation in cotton mills	Males								1	1
	Females								1	
In woolen worsted mills	Males									1
	Females									
In other textile mills	Males				1				3	3
	Females					1		1	3	
Other industries	Males	1	2	4	6	1	1	9	4	81
	Females				1			1	3	3
Electrical supply factories	Males	1		2	2			3	4	38
	Females									
Rubber factories	Males				1			1		2
	Females								1	1
Other factories	Males		2	2	3	1	1	5	40	1 41
	Females				1				2	2

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Locomotive engineers.....	Males... Females.....	1	1	1	2	1	11	4	66	66
Locomotive firemen.....	Males... Females.....			1		1	7	1	15	15
Motormen.....	Males... Females.....			1		1	3	2	16	16
Officials and superintendents (steam railroad).....	Males... Females.....				1				6	6
Switchmen, flagmen and yardmen.....	Males... Females.....	1	1	2		2	16	1	62	62
Switchmen and flagmen (steam railroad).....	Males... Females.....	1	1			2	15		52	52
Switchmen and flagmen (street railroad).....	Males... Females.....			1				1	2	2
Yardmen (steam railroad).....	Males... Females.....			1			1		8	8
Ticket and station agents.....	Males... Females.....			1				1	5	5
Express, post, telegraph and telephone agent (selected occupations).....	Males... Females.....								2	2
Express messengers and railway mail clerks.....	Males... Females.....			2				1	16	16
Express messengers.....	Males... Females.....			2				1	3	3
Railway mail clerks.....	Males... Females.....								13	13
Mail carriers.....	Males... Females.....	1	1	2		1	2	1	35	35
Telegraph and telephone linemen.....	Males... Females.....			1		1	7		12	12
Telegraph messengers.....	Males... Females.....						2		4	4

TABLE No. 9—Continued.

OCCUPATION	Sex.	DISEASES											TOTAL					
		Cirrhosis of Liver	Other Diseases of Liver	Peritonitis	Appendicitis	Hernia	Other Diseases	Digestive System	Bright's Disease	Childbirth	Suicide	Poisonous (Injures and Other Accidental Poisonings)	Other Accidents and Causes	All Other Causes	White	Colored	Male	Female
Floorwalkers, foremen and overseers.....	Males..... Females.....												1		3		3	
Floorwalkers and foremen in stores.....	Males..... Females.....														1		1	
Foremen; warehouses, stockyards, etc.....	Males..... Females.....														2		2	
Inspectors, gaugers and samplers.....	Males..... Females.....														1		1	
Insurance agents and officials.....	Males..... Females.....	2	1			1	4	5	1		1		2	3	6		6	
Laborers in coal and lumberyards, warehouses, etc.....	Males..... Females.....							1					2		46		46	
Coal yards.....	Males..... Females.....														5	1	6	
Elevators.....	Males..... Females.....												2		2	1	3	
Lumber yards.....	Males..... Females.....														1		1	
Laborers, porters and helpers in stores.....	Males..... Females.....							1							2		2	
		1													4		4	

Newsboys.....	Males..... Females.....									1		2		2
Real estate agents and officials.....	Males..... Females.....	2		1		1	5		2	3	4	48		48
Retail dealers.....	Males..... Females.....	19	6	5	2	18	82		9	24	43	572	1	573
												1		6
Salesmen and saleswomen.....	Males..... Females.....	4		3		4	15		4	17	17	166		166
				1	1					2	3	23		23
Auctioneers.....	Males..... Females.....											2		2
Demonstrators.....	Males..... Females.....									1		1		1
Sales agents.....	Males..... Females.....						1		1	3	1	11		11
Salesmen and saleswomen (store).....	Males..... Females.....	4		3		4	14		3	14	16	152	1	153
				1	1					1	3	22		22
Undertakers.....	Males..... Females.....	1					2		1		1	9		9
Wholesale dealers, importers and exporters.....	Males..... Females.....			1						1		4		4
Other pursuits (semi-skilled) meat cutters.....	Males..... Females.....	2					1				1	13		13
Public service (not elsewhere classified).....	Males..... Females.....	2	2	2	1	4	17		2	11	12	141	2	143
Firemen (fire department).....	Males..... Females.....						1			1		9		9
Guarda, watchmen and doorkeepers.....	Males..... Females.....		1		1	2	3			3	4	42	1	43
Laurens (public service).....	Males..... Females.....						1		1			3		3
Marshals, sheriffs, detectives, etc.....	Males..... Females.....								1	2	1	10	1	11

TABLE No. 9—Continued.

OCCUPATION	Sex.	DISEASES											TOTAL				
		Cirrhosis of Liver	Other Diseases of Liver	Peritonitis	Appendicitis	Hernia	Other Diseases Digestive System	Bright's Disease	Childbirth	Suicide	Poisonous Gases and Other Accidental Poisonings	Other Accidents and Causes	All Other Causes	White	Colored	Male	Female
Detectives.....	Males..... Females.....														2		2
Marshals and constables.....	Males..... Females.....											1	1	3	1	4	
Probation and truant officers.....	Males..... Females.....													1	1	1	
Sheriffs.....	Males..... Females.....									1				4		4	
Officials and inspectors (city and county).....	Males..... Females.....			2			1	6				1	3	37		37	
Officials and inspectors (city).....	Males..... Females.....			1			1	1					2	15		15	
Officials and inspectors (county).....	Males..... Females.....			1				5				1	1	22		22	
Officials and inspectors(State and United States)	Males..... Females.....	1						2					2	13		13	
Officials and inspectors (state).....	Males..... Females.....							1					1	5		5	
Officials and inspectors (United States).....	Males..... Females.....	1						1					1	8		8	

TABLE No. 9—Continued.

OCCUPATION	Sex.	DISEASES											TOTAL						
		Cirrhosis of Liver		Other Diseases of Liver	Peritonitis	Appendicitis	Hernia	Other Diseases Digestive System	Bright's Disease	Childbirth	Suicide	Poisonous Cases and Other Accidental Poisonings	Other Accidents and Causes	All Other Causes	White	Colored	Male	Female	
Designers, draftsmen and inventors	Males																		
	Females																		
Designers	Males																		
	Females																		
Draftsmen	Males																		
	Females																		
Inventors	Males																		
	Females																		
Lawyers, judges and justices	Males	3	3				1	8			1	1	2	62	1	63			
	Females													1					
Musicians and teachers of music	Males							4				1	1	20	1	21			
	Females													8					
Photographers	Males				1			1		1			1	12		12			
	Females													1					
Physicians and surgeons	Males	3			1		3	21		3		5	7	121	2	123			
	Females																		
Showman	Males	1								1		1		11	1	12			
	Females																		
Teachers	Males	1	1		3		2	3				3	7	43		43			
	Females			1			4	7		1		2	5	66					

TABLE No. 9—Continued.

OCCUPATION	Sex.	DISEASES												TOTAL		
		Chronic Diseases of Liver	Peritonitis	Appendicitis	Hernia	Other Diseases Digestive System	Bright's Disease	Childbirth	Suicide	Poisonous Gases and Other Accidents and Poisoning	Other Accidents and Causes	All Other Causes	White	Colored	Male	Female
Bartenders.....	Males..... Females.....	7			1	2	2		1		2	4	60	1	61	
Billiard room, dance hall, skating rink, etc., keepers.....	Males..... Females.....								1		1		4		4	
Billiard and pool room keepers.....	Males..... Females.....								1		1		3		3	
Dance hall, skating rink, etc., keepers.....	Males..... Females.....												1		1	
Boarding and lodging house keepers.....	Males..... Females.....									1		2	4	1	4	4
Charwomen and cleaners.....	Males..... Females.....												2		2	
Elevator tenders.....	Males..... Females.....										2	1	4		4	
Hotel keepers and managers.....	Males..... Females.....	1	1	1			5		3		1	3	22		22	6
Housekeepers and stewards.....	Males..... Females.....	1		1		2			1		1	1	1	4	4	9
Janitors and porters.....	Males..... Females.....	1				1	4		2		2	3	29	7	36	

TABLE No. 9—Continued.

OCCUPATION	Sex.	DISEASES												TOTAL			
		Cirrhosis of Liver	Other Diseases of Liver	Peritonitis	Appendicitis	Hernia	Other Diseases Digestive System	Bright's Disease	Childbirth	Buicide	Poisonous Gases and Other Accidents and Poisonings	Other Accidents and Causes	All Other Causes	White	Colored	Male	Female
Umbrella menders and scissors grinder	Males													1		1	
	Females																
Other occupations	Males											1		1		1	
	Females																
Clerical occupations	Males	2			5		1	20	7	1	19	22	246	1	247		
	Females				3		1	2	2	1	1	6	39	1		40	
Agents, canvassers and collectors	Males				1			1	1			3	24		24		
	Females																
Agents	Males			1								3	14		14		
	Females																
Canvassers	Males								1				4		4		
	Females																
Collectors	Males							1					6		6		
	Females																
Bookkeepers, cashiers and accountants	Males	1		2				9	3		3	6	84		84		
	Females											3	12			12	
Clerks (except clerks in stores)	Males	1		2			1	9	3	1	11	13	126	2	128		
	Females			1			1					1	14			14	
Shipping clerks	Males							1				2	9	1	10		
	Females																

TABLE No. 10.

Deaths from Tuberculosis, all Forms, with Rates per 100,000 Population, for Certain Occupations, of Each Sex, for Year 1915.

OCCUPATIONS.	Number of Deaths 14 Years of Age and Over	Death Rate per 100,000
MALES.		
Farmers.....	323	11.4
General and not specified laborers.....	257	9.0
Farm Laborers (Working out).....	91	3.2
Retail Dealers.....	39	1.3
Carpenters.....	32	1.1
Machinists and Millwrights.....	32	1.1
Painters, Glazers and Varnishers (Building).....	28	.9
Other Clerks (Except in Store).....	23	.8
Salesmen and Saleswomen (Stores).....	22	.7
Bookkeepers, Cashiers and Accountants.....	21	.7
Coal Miners Operator.....	21	.7
Bartenders.....	17	.6
Barbers, Hairdressers and Manicurists.....	15	.5
Farm Laborers.....	15	.5
Electricians and Electrical Engineers.....	13	.4
Brick and Stone Masons.....	11	.3
Cooks.....	11	.3
Compositors, Linotypers and Typesetters.....	10	.3
Iron Molders, Founders and Casters.....	10	.3
Draymen, Teamsters and Expressmen.....	9	.3
Engineers (Mechanical).....	9	.3
Bakers.....	8	.2
Clergymen.....	8	.2
Commercial Travelers.....	8	.2
Blast Furnaces and Rolling Mills.....	7	.2
Cabinet Makers.....	7	.2
Car and Railroad Shops.....	7	.2
Lawyers, Judges and Justices.....	7	.2
Plumbers and Gas and Steam Fitters.....	7	.2
Teachers (School).....	7	.2
Walters.....	7	.2
Electrical Supply Factories.....	6	.2
Glass Blowers.....	6	.2
Locomotive Engineers.....	6	.2
Tailor and Tailoresses.....	6	.2
Telegraph Operators.....	6	.2
Furniture Piano and Organ Factories.....	5	.1
Motormen.....	5	.1
Other Factories (Semi-skilled operatives not otherwise specified).....	5	.1
Other pursuits (Semi-skilled Meat Cutters).....	5	.1
Physicians and Surgeons.....	5	.1
Road and Street Building and Repairing.....	5	.1
Showmen.....	5	.1
Steam Railroads.....	5	.1
Automobile Factories.....	4	.1
Building and Building Contractors.....	4	.1
Guards, Watchmen and Doorkeepers.....	4	.1
Musicians and Teachers of Music.....	4	.1
Other Servants (Domestic and Personal Service).....	4	.1

TABLE No. 10—Continued.

OCCUPATIONS.	Number of Deaths 14 Years of Age and Over	Death Rate per 100,000
Pattern and Model Makers.....	4	.1
Plasterers.....	4	.1
Saloon Keepers.....	4	.1
Steam Railroads.....	4	.1
Actors.....	3	.1
Boilermakers.....	3	.1
Chauffeurs.....	3	.1
Cigar and Tobacco Factories.....	3	.1
Conductors (Steam Railroads).....	3	.1
Glass Factories.....	3	.1
Hostler and Stable Hands.....	3	.1
Manufacturers.....	3	.1
Other Iron and Steel Works.....	3	.1
Paperhangers.....	3	.1
Printing and Publishing.....	3	.1
Restaurant, Cafe and Lunch Room Keepers.....	3	.1
Switchman, Flagmen (Steam Railroads).....	3	.1
Tanneries (Semi-skilled operatives not otherwise specified).....	3	.1
Wagon and Carriage Factories.....	3	.1
Artists, Sculptors and Teachers of Art.....	2	.07
Attendants and Helpers (Professional Service).....	2	.07
Blacksmith.....	2	.07
Brakemen.....	2	.07
Collectors.....	2	.07
Conductors (Street Railroad).....	2	.07
Coopers.....	2	.07
Firemen (Except Locomotive and Fire Department).....	2	.07
Foreman and Overseers (Manufacturing).....	2	.07
Grinders.....	2	.07
Helpers in Building and Hand Trade.....	2	.07
Insurance Agents and Officials.....	2	.07
Laundry Operators.....	2	.07
Liquor and Beverage Industries.....	2	.07
Officials and Inspectors (City).....	2	.07
Other woodworking factories (Semi-skilled operatives lumber and furniture).....	2	.07
Other woodworking factories (Lumber and Furniture laborers).....	2	.07
Photographers.....	2	.07
Quarry Operators.....	2	.07
Railway Mail Clerks.....	2	.07
Real Estate Agents and Officials.....	2	.07
Roller and Roll Hands (Metal).....	2	.07
Sawyers.....	2	.07
Stores, (Deliverymen in Stores).....	2	.07
Structural Iron Workers (Building).....	2	.07
Telegraph and Telephone Linemen.....	2	.07
Apprentices to Building and Hand Trade.....	1	.03
Architects.....	1	.03
Bankers and Bank Officials.....	1	.03
Bell Boys, Chore Boys, etc.....	1	.03
Blast Furnaces and Rolling Mills.....	1	.03
Boatmen, Canalmen and Lock Keepers.....	1	.03
Boiler Washers and Engine Hostlers.....	1	.03
Brass Mills (Laborers).....	1	.03
Breweries.....	1	.03
Brick Tile and Terra Cotta Factories.....	1	.03
Butchers and Dressers (Slaughter House).....	1	.03
Butter and Cheese Factories.....	1	.03
Candy Factories.....	1	.03
Car and Railroad Shops (Laborers).....	1	.03
Chemists, Assayers and Metallurgists.....	1	.03

TABLE No. 10—Continued.

OCCUPATIONS.	Number of Deaths 14 Years of Age and Over	Deaths Rate per 100,000
Commercial Brokers and Commission Men.....	1	.03
Coppersmiths.....	1	.03
Dairy Farmers.....	1	.03
Dance Hall, Skating Rink, etc., Keepers.....	1	.03
Distilleries.....	1	.03
Draftsmen.....	1	.03
Editors and Reporters.....	1	.03
Electrical Supply Factories.....	1	.03
Engineers (Mechanical).....	1	.03
Express, Post, Telegraph and Telephone Agent Selected Oc- cupations.....	1	.03
Firemen (Fire Department).....	1	.03
Fruit Growers and Nurserymen.....	1	.03
Foremen and Overseers (Lumbermen and Raftsmen, etc.).....	1	.03
Foremen and Overseers (R. R. Transportation).....	1	.03
Furniture, Piano and Organ Factories.....	1	.03
Garage Keepers and Managers.....	1	.03
Gardeners.....	1	.03
Hat Factories (Felt).....	1	.03
Hotel Keepers and Managers.....	1	.03
Janitors and Sextons.....	1	.03
Laborers, Porters and helper in Stores.....	1	.03
Landscape Gardeners.....	1	.03
Lime Cement and Gypsum Factories.....	1	.03
Lithographers.....	1	.03
Livery Stable Keepers and Managers.....	1	.03
Locomotive Firemen.....	1	.03
Lumbermen and Draftsmen.....	1	.03
Mall Carriers.....	1	.03
Messengers, Errand and Office Boys.....	1	.03
Milliners and Millinery Dealers.....	1	.03
Managers and Superintendents (Manufacturing).....	1	.03
Newsboys.....	1	.03
Officials and Inspectors (County).....	1	.03
Other Factories (Laborers Not Otherwise Specified).....	1	.03
Other Iron and Steel Works.....	1	.03
Other Clothing Factories.....	1	.03
Other Mechanics.....	1	.03
Other Pursuits (For Public Service Not Otherwise Specified).....	1	.03
Potteries.....	1	.03
Pressmen (Printing).....	1	.03
Proprietor, Officials and Managers not Otherwise specified of Telegraph and Telephone Companies.....	1	.03
Puddlers.....	1	.03
Sailors and Deck Hands.....	1	.03
Sales Agent.....	1	.03
Saw and Planing Mills.....	1	.03
Sheriffs.....	1	.03
Shoe Factories (Semi-skilled operatives not otherwise speci- fied).....	1	.03
Slaughter and Packing Houses.....	1	.03
Soldiers and Sailors and Marines.....	1	.03
Stone Cutters.....	1	.03
Theatrical Owners, Managers and Officials.....	1	.03
Telephone Operators.....	1	.03
Ticket and Station Agent.....	1	.03
Tinsmiths.....	1	.03
Wagon and Carriage Factories (Semi-skilled operatives not otherwise specified).....	1	.03
Wheelwrights.....	1	.03
Woolen and Worsted Mills.....	1	.03
Yardmen (Steam Railroad).....	1	.03

TABLE No. 10—Continued.

OCCUPATIONS.	Number of Deaths 14 Years of Age and Over	Death Rate per 100,000
FEMALES.		
Other Servants (Domestic and Public Service)	65	2.3
Teachers (School)	11	.3
Dressmakers and Seamstresses (Not in factory)	10	.3
Telephone Operators	9	.3
Bookkeepers, Cashiers and Accountants	5	.1
Launderers and Laundresses (Not in Laundry)	4	.1
Other Clerks (Except in Stores)	4	.1
Stenographers and Typewriters	4	.1
Automobile Factories	3	.1
Cigar and Tobacco Factories	3	.1
Laundry Operators	3	.1
Musicians and Teachers in Music	3	.1
Nurses (Not Trained)	3	.1
Compositors, Linotypers and Typesetters	2	.07
Cooks	2	.07
Other Clothing Factories (Semi-skilled operatives)	2	.07
Other Professional Pursuits	2	.07
Salesmen and Saleswomen (Stores)	2	.07
Barbers, Hairdressers and Manicurists	1	.03
Farmers	1	.03
Floorwalkers and Foremen in Stores	1	.03
Healers (Except Physicians and Surgeons)	1	.03
Milliners and Millinery Dealers	1	.03
Other occupation in Cotton Mills not otherwise specified	1	.03
Photographers	1	.03
Retail Dealers	1	.03
Walters	1	.03

TABLE No. 11.

*Poliomyelitis by Months, Ages and Counties for the Year Ending,
December 31, 1915.*

MONTHS.

January.....	1	July.....	3
February.....	-	August.....	1
March.....	2	September.....	2
April.....	2	October.....	1
May.....	-	November.....	1
June.....	2	December.....	1

AGES.

Under 1 year.....	2	10 to 14 years.....	1
In 1 year.....	10	15 to 19 years.....	-
In 2 years.....	1	20 to 24 years.....	-
In 3 years.....	1	55 to 59 years.....	-
In 5 to 9 years.....	1		

COUNTIES.

Cass.....	1	Marion.....	2
Clinton.....	1	Martin.....	1
Dekalb.....	1	Noble.....	1
Elkhart.....	1	St. Joseph.....	2
Grant.....	1	Tipton.....	1
Lagrange.....	1	Vanderburgh.....	1
Lake.....	1	Wayne.....	1

Total Males.....	10
Total Females.....	6
Total.....	16

TABLE No. 12—Continued.

COUNTIES	Typhoid Fever	Small- pox	Measles	Scarlet Fever	Whoop- ing Cough	Diph- theria	Pul- monary Tuber- culosis	Cerebro Spinal Fever	Acute Poli- omyelitis	Chicken Pox	Trach- oma	Syph- ilis	Gonor- rhea	Paro- titis	Erysip- elas
Fulton.....	1	1	4	26	1	45	30			6		3	17		
Gibson.....	22	124	255	57	29	29	16	21	1	26					
Grant.....	11	68	83	10	10	68	11		1	4					
Greene.....	6	7	44	117	37	99	3			2					
Hamilton.....	25	28	34	34	3	12	8	2		5					
Hancock.....	13	16	369	46	53	8	3			24					
Harrison.....	10			16						1					
Henricks.....	3	5	41	23	1	11	4	1		9					
Henry.....	7	97	72	47		18	5			1					
Howard.....	26	9	183	57	29	76	15	1		34				3	
Huntington.....	14	9	8	44			7			1					
Jackson.....	21	24	3	15	15	12	3			13					
Jasper.....			5	9	9	2	7	1							
Jay.....	10	3	10	40		15	11		1						
Jefferson.....	24	31	2	12		13	18			7					
Jennings.....	31	29	26	12		8	10			5				1	
Johnson.....	18	13	171	34		30	1	1							
Knox.....	23	289	5	42	2	28	14	1		2					
Kosciusko.....	10		112	42	5	31	5			1			5		
Lagrange.....	5		60	121		34	22								
Lake.....	142	59	527	218	59	108	50	2	4	87	3	1	4	2	3
Laporte.....	22	1	33	145		23	17			4					
Lawrence.....	39	64		27	3	40	14								
Madison.....	17	666	9	249		16	18		1	3					
Marion.....	183	33	873	422	1,137	345	731	20	2	1,010			10		
Marshall.....	2			54	2	10				2					
Martin.....	26	33				3	1		2						
Miami.....	25	8	6	21		29	10	1		19					
Monroe.....	8				1	11						1	2		
Montgomery.....	10	20	68	143	67	7	15	2		33					

Morgan.	14	1	13	37	16	20	21	1	3	4	3
Newton.	8	5	246	44	80	8	5	1	7	4	4
Noble.	3	5			2		6		1	7	7
Ohio.	11	19		45		7	13		1	1	1
Orange.											
Oren.	16		37	25	1	8	7				
Parke.	14	2	106	41		7	12		1	1	1
Perry.	12		230	6		9	2		3	3	4
Pike.	22	88	41	7		22	27	1	17	17	3
Porter.	1	12	14	25	8	23	12		19	19	1
Poey.	15	119	136	39		24	16	1	25	25	1
Pulaski.			8	19	38				1	1	1
Putnam.	22	41	43	43		38			3	3	3
Randolph.	26	12	6	86	8	4	6	1	8	8	6
Ripley.	7	41	2	1		13	7	1			
Rush.	2	7	5	42	1	7	6	1		16	16
Scott.	6	68		1		10	8	1		25	25
Shelby.	2	34	43	8	10	12	1			7	7
Spencer.	16	25	30	4	19				1	1	1
Starke.		2	1	16	1	3			1	1	1
Steuben.	1		165	1	2	2	2		2	2	2
St. Joseph.	32	5	259	135	52	198	106	2	4	162	162
Sullivan.	25	1	25	35	2	83	3		2	2	2
Switzerland.	8	8		4			11		6	6	6
Tippecanoe.	27	59	40	67	9	11	28	1	45	45	4
Tipton.	9		14	32		14	1				
Union.				7		1					
Vanderburgh.	19	53	89	12		16	1	2	2	2	2
Vermillion.	7	20	44	9		12					
Vigo.	12	202	516	53	2	202	1	3		47	47
Wabash.	1	13	116	14	1	7	2				
Warren.	10	24	25	15			3				
Warrick.	3	12	8			8			1		
Washington.	22	34	28	28	15	24	281	7	60	60	60
Wayne.	26	2	93	106	17	32	3		1	80	80
Wells.		8	1	11		5					
White.	10	9	4	20	21	12		2	3	3	3
Whitley.	1	1	379	13	1	4		1	1	1	1
Total.	1,499	3,974	6,518	3,935	2,118	2,668	1,967	86	25	2,298	2,298
								4	9	61	61
										6	6
											3

TABLE No. 13.

Infant Mortality. Deaths of Infants, by Days, Weeks, and Months. Deaths (Exclusive of Stillbirths) from Important Causes for the State of Indiana of the First of Life in 1915.

MONTHS													AGE, UNDER 1 YEAR, IN COMPLETED DAYS, WEEKS OR MONTHS														
MONTHS													DAYS			WEEKS			MONTHS								
Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Under 1	1	2	3 to 6	Total under 1 Week	1	2	3*	Total under 1 Month	1	2	3 to 5	6 to 8	9 to 11	Total under 1 Year	
437	517	579	436	325	301	333	383	410	386	348	420	963	302	215	410	1,890	345	284	183	2,702	447	339	592	470	325	4,875	
All Causes																											
Measles			2	4	1	2				1	4	1		1		2					1	1	3	4	3	14	
Scarlet Fever			3	2					2		1					2					1	1	2	2		8	
Whooping Cough	7	9	15	8	9	10	8	7	9	6	4		1			2		2	5	9	9	15	16	25	26	14	
Diphtheria and Croup	1	1	2	1	1		1				2	2								1	1		4	4	3	12	
Influenza	6	8	10	3	1					2	9							1	3	5	9	5	10	7	4	4	
Dysentery																											
Erysipelas	2	1	1	1	2	2	1	1		2	2							1	3	1	5	1	3	5	1	2	
Tetanus	1	1	1	1	3	1		3	2	1			1		4	5	6	2			13					13	
Tuberculosis of the Lungs	1	2	2	4	2	2	5	3	5	2	3	2	1			1		1	1	1	3	1	4	5	10	10	
Tuberculous Meningitis	5	5	3	4	3	6	1	2	2	1	6									1	3	1	6	16	11	38	
Other forms of Tuberculosis	1	2						4	4	1	2								1	1	1	3	5	3	1	1	
Syphilis	2	8	9	3	3	10	8	3	1	9		3	5	1	2	13	7	1	2	23	14	8	10	3	1	59	
Meningitis																											
Convulsions	4	3	5	2	1	1	3	1	3	4	8					2	2	1	3		6	8	6	8	4	3	
Organic diseases of the Heart	1	5	3	2	4	3	2		1		2	2			5	4	11	3	1	2	17	3	1	1		23	
Acute Bronchitis	3	3	4	3	5	1	2		1	1	6	7	6	1	4	5	10	5	2	25	3	1	3	1	3	36	
	14	26	23	7	3	3		2	1	3	8	6			7	7	12	17	10	46	11	10	15	5	9	96	
Broncho Pneumonia	81	108	128	52	19	13	10	8	12	10	25	42	1	8	4	15	28	26	35	33	122	87	64	96	76	63	508
Pneumonia	46	62	57	36	9	8	3	7	10	17	20	2	4	2	10	18	10	22	19	18	77	39	26	57	53	30	282
Diseases of the Stomach	9	17	12	14	9	14	10	13	15	11	16	13		1	2	8	11	13	17	7	48	28	23	32	17	5	153
Diarrhea and Enteritis	37	38	47	46	37	33	86	129	144	106	60	49	6	1	8	24	39	29	32	34	133	86	87	199	178	128	812

Malformations.....	32	52	42	56	47	30	34	28	38	37	32	43	119	57	42	78	204	54	22	18	390	23	12	22	12	2	471
Premature Births.....	99	69	118	96	100	103	91	97	103	96	96	106	632	144	75	114	945	87	53	23	1,128	33	7	6	1	1,176	
Congenital Deafity.....	36	49	44	42	34	29	30	21	24	27	25	36	90	45	31	87	233	44	34	12	323	23	21	20	9	1,397	
Injuries at Birth.....	24	22	18	13	9	9	21	12	12	16	15	21	88	27	26	37	175	10	7	.....	192	.....	.....	.....	.....	192
External Causes.....	4	6	3	3	6	2	3	4	3	4	6	9	3	5	3	3	14	1	1	3	19	4	8	13	5	53	
Ill-defined and unknown.....	.....	.....	1	1	.....	2	2	4	.....	1	.....	1	6	2	1	1	10	.....	1	.....	11	1	1	.....	.....	13
All other causes.....	25	21	29	24	17	17	12	23	22	27	16	24	4	4	8	26	42	20	24	8	94	44	23	42	32	257	

*Includes infants aged 21 to 29 days.

TABLE No. 14—Continued.

Infant Mortality. Deaths of Infants, by Days, Weeks, and Months from Important Causes for each County and City of 5,000 and over, estimated population in 1915. Deaths (Exclusive of Stillbirths.)

COUNTIES AND CITIES	MONTHS												AGE, UNDER 1 YEAR, IN COMPLETED DAYS, WEEKS OR MONTHS																													
	MONTHS												DAYS			WEEKS			MONTHS																							
													Under 1			Total under 1 Week			1			2			3 to 6			7 to 9			Total under 1 Year											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Adams County.....	4	3	2	4	1	1	1	1	3	3	1	1	5	2	2	2	9	2	2	1	14	5	3	3	4	5	1	22														
Allen County.....	4	6	6	4	4	4	2	5	11	10	6	3	8	4	3	5	19	3	2	2	26	2	2	2	3	4	1	40														
Fort Wayne—City.....	16	8	12	10	8	5	5	16	15	10	6	11	19	15	4	16	55	4	8	3	70	8	8	6	7	5	104															
Bartholomew County.....	2	3	1	1	3	4	5	2	1	2	1	2	4	2	4	4	14	3	2	2	19	1	1	1	2	1	27															
Columbus—City.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1	6															
Benton County.....	1	2	1	1	2	3	3	2	2	1	1	1	6	1	3	10	11	1	2	1	11	2	2	2	1	1	16															
Blackford County.....	4	3	2	1	2	3	2	2	1	1	1	1	5	2	1	8	13	3	1	3	13	3	1	3	1	1	21															
Hartford City—City.....	2	4	4	1	1	3	1	2	3	1	1	1	1	1	2	4	7	5	1	13	4	1	1	2	1	1	13															
Boone County.....	2	4	4	1	2	1	1	1	1	1	1	1	3	2	1	6	6	1	1	8	...	...	...	...	...	...	22									
Lebanon—City.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9
Brown County.....	1	3	1	6	1	1	...	...	1	1	...	...	2	3	...	1	3	2	2	7	...	...	...	...	...	...	8					
Carroll County.....	1	3	6	6	1	1	...	...	2	2	1	1	3	3	...	4	9	3	3	15	3	1	4	2	...	...	25											
Cass County.....	...	2	3	2	1	2	1	3	2	...	...	...	5	1	...	5	11	2	2	14	2	...	...	...	...	...	18							
Logansport—City.....	2	3	3	2	3	2	...	...	4	3	4	6	14	...	1	...	15	2	1	1	19	2	6	2	4	1	34													
Clark County.....	2	7	6	3	2	1	...	...	4	6	2	1	4	2	3	3	12	6	2	2	22	3	3	5	2	1	36													
Jeffersonville—City.....	1	2	1	1	2	...	1	2	1	5	...	...	1	2	...	1	2	...	1	3	1	1	2	1	...	...	8											
Clay County.....	1	2	1	2	...	...	1	2	2	3	...	...	3	2	...	3	6	2	...	8	3	2	2	4	1	...	21											
Brazil—City.....	...	4	2	...	4	2	1	...	2	3	3	...	7	...	1	...	6	...	1	1	8	...	...	...	...	...	15										
Clinton.....	6	4	2	...	...	...	...	...	3	1	...	...	2	...	...	13	...	...	...	14	4	...	...	...	...	...	26
Frankfort—City.....	1	...	...	3	...	1	1	...	1	...	1	...	1	...	4	3	3	4	2	9	1	...	2	...	...	...	17										

TABLE No. 14—Continued.

Infant Mortality. Deaths of Infants, by Days, Weeks, and Months from Important Causes for each County and City of 5,000 and over, estimated population in 1915. Deaths (Exclusive of Stillbirths.)

COUNTIES AND CITIES	MONTHS												AGE, UNDER 1 YEAR, IN COMPLETED DAYS, WEEKS OR MONTHS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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													Under 1	1	2 to 6	Total under 1 Week	1	2	3*	Total under 1 Month	1	2	3 to 6	to 9	10	Total under 1 Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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TABLE No. 14—Continued.

COUNTIES AND CITIES	MONTHS												AGE, UNDER 1 YEAR, IN COMPLETED DAYS, WEEKS OR MONTHS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11

Indianapolis—City	46	49	56	38	25	25	39	36	46	30	35	36	90	42	30	37	199	25	19	13	256	41	30	59	48	27	461
Marshall County	4	5	6	3	2	4	2	5	1	2	6	6	11	1	1	5	18	2	1	4	25	4	8	5	1	1	42
Martin County	1	2	3	2	2	2	2	1	1	2	1	2	1	6	4	3	10	3	1	1	18	4	3	2	2	2	31
Miami County	2	2	2	2	2	2	2	2	1	2	1	2	1	1	2	1	2	2	1	1	12	1	3	1	1	1	20
Peru—City	2	2	1	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	10	
Monroe County	3	4	2	4	1	2	3	2	2	2	2	4	6	.....	1	2	0	4	2	1	16	3	5	4	6	8	34
Bloomington—City	4	4	5	4	2	2	2	2	1	3	2	2	2	.....	1	1	18	2	3	3	23	3	2	2	2	2	21
Montgomery County	4	4	9	5	4	2	2	1	2	2	2	2	2	.....	3	1	18	2	3	23	2	2	2	2	2	33	
Crawfordsville—City	2	3	6	1	9	3	2	1	1	1	1	3	7	4	2	2	14	4	1	2	20	3	2	2	4	4	33
Morgan County	1	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	2	1	3	.....	.....	14	
Newton County	4	3	1	.....	1	2	1	.....	2	2	.....	1	2	1	2	1	5	1	2	12	2	1	3	.....	.....	21	
Noble County	1	2	4	1	2	1	4	.....	.....	.....	.....	2	2	1	1	1	0	.....	3	4	2	4	2	1	1	8	
Kendallville—City	1	2	3	1	1	1	1	.....	.....	.....	.....	1	2	.....	.....	.....	3	.....	1	4	2	1	3	.....	.....	7	
Ohio County	2	3	3	10	1	3	2	1	1	2	1	3	7	5	.....	2	14	2	4	3	9	4	1	1	2	2	31
Orange County	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Owen County	3	1	5	2	1	1	1	1	.....	1	1	2	3	2	1	1	5	4	1	1	10	2	1	1	3	3	17
Pike County	3	2	4	3	4	4	1	2	1	4	1	2	3	2	1	0	18	3	2	23	4	2	3	2	2	2	33
Perry County	4	4	3	4	4	4	2	1	2	1	2	1	3	2	2	4	21	6	3	1	20	1	2	3	2	2	30
Pike County	1	10	3	4	4	4	2	1	2	1	1	1	14	2	3	2	21	6	3	10	10	6	5	5	2	2	48
Porter County	1	3	6	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	2	2	16	2	1	2	2	2	2	23
Valparaiso—City	1	1	1	1	1	1	1	.....	1	1	2	2	2	1	1	1	5	.....	.....	5	.....	.....	.....	.....	.....	.....	7
Posey County	2	5	1	1	1	1	1	.....	2	2	2	2	6	1	1	1	8	2	.....	10	3	2	4	1	2	19	
Mt. Vernon—City	1	1	1	1	1	1	1	.....	1	1	1	1	1	1	1	1	2	1	2	5	1	3	2	1	1	1	11
Pulaski County	5	5	2	2	2	2	2	.....	1	2	1	3	4	1	2	4	11	1	3	19	1	2	2	2	2	2	25
Putnam County	3	2	2	1	1	1	1	.....	1	2	3	2	2	4	3	2	11	1	2	1	14	1	.....	.....	.....	.....	18
Randolph County	2	3	3	5	6	4	4	1	6	4	4	2	10	5	2	5	22	6	1	1	29	3	4	4	2	1	43
Ripley County	1	1	1	7	3	1	2	1	1	2	1	2	5	2	1	1	7	3	.....	10	5	2	4	2	1	1	24
Rush County	1	1	2	3	2	2	1	.....	2	2	2	2	3	2	2	4	11	1	2	11	2	3	3	1	1	1	16
Rushville—City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	5	2	1	1	.....	.....	.....	9
Scott County	2	2	1	1	1	1	3	.....	2	1	2	2	2	7	1	2	10	1	1	1	12	1	2	2	2	2	17
Shelby County	1	3	3	5	3	2	2	3	3	1	1	1	5	2	3	3	10	1	4	3	18	1	2	1	2	.....	24
Shelbyville—City	1	2	3	2	2	1	3	1	1	1	1	4	2	5	3	3	10	3	3	10	2	1	2	.....	1	1	16
Spencer County	2	2	3	1	4	1	5	3	1	2	4	4	6	1	1	1	11	4	2	1	18	1	6	1	1	1	31
Starke County	3	2	4	2	3	2	2	.....	.....	.....	.....	1	1	1	2	2	7	1	2	10	3	1	1	1	2	2	18
Steuben County	3	2	2	4	3	2	2	.....	.....	.....	.....	1	4	.....	1	4	11	4	.....	18	1	1	1	.....	.....	.....	21
St. Joseph County	2	2	4	4	1	3	1	4	4	.....	.....	.....	7	1	3	2	13	2	1	16	1	1	1	1	1	1	20
South Bend—City	8	13	20	15	12	11	8	13	12	14	12	11	22	10	7	11	51	18	8	9	86	10	10	23	10	10	149
Southwestern—City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	43
Sullivan County	9	10	4	5	6	7	3	7	1	8	6	6	18	2	4	6	30	6	4	4	44	4	6	6	6	6	73
Switzerland County	3	3	2	1	1	2	2	.....	.....	.....	.....	.....	1	1	3	3	5	2	1	9	1	1	1	1	1	1	14

*Includes infants aged 21 to 29 days.

*Includes infants aged 21 to 29 days.

TABLE No. 14—Continued.

COUNTIES AND CITIES	MONTHS												AGE, UNDER 1 YEAR, IN COMPLETED DAYS, WEEKS OR MONTHS														
													DAYS						WEEKS			MONTHS					
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Under 1	1	2	3 to 6	Total under 1 Week	1	2	3*	Total under 1 Month	1	2	3 to 6	6 to 8	8 to 11	Total under 1 Year
Tippecanoe County	4	2	2	2	4	2	2	1	3	2	6	4	2	1	4	3	10	3	1	1	15	2	...	1	...	1	19
Lafayette—City	7	3	3	2	4	2	1	1	3	2	6	4	12	4	1	4	21	2	2	4	28	1	...	4	3	1	37
Tipton County	3	4	3	2	4	2	3	2	4	5	2	3	8	1	4	3	16	2	2	4	24	1	5	2	2	3	37
Union County	2	5	4	1	1	1	1	...	2	2	1	...	3	1	1	...	5	1	1	7	5	...	1	1	...	7	7
Vanderburgh County	2	5	4	1	4	2	3	6	...	2	8	3	3	5	4	1	15	1	1	3	20	4	5	3	6	4	42
Evansville—City	12	13	10	4	5	5	9	11	13	8	16	19	29	8	2	10	49	3	11	5	68	11	14	10	10	12	125
Vermillion County	3	5	4	2	4	...	3	3	2	6	3	2	2	2	...	1	5	3	3	12	3	2	8	10	2	37	
Clinton—City	1	1	5	1	...	4	4	...	3	1	1	4	11	...	...	1	12	1	2	1	16	2	1	2	3	1	25
Vigo County	7	9	11	7	1	5	4	4	5	10	5	8	11	7	7	3	28	4	4	3	39	6	8	11	10	2	76
Terre Haute—City	7	10	11	9	5	9	9	9	4	16	7	5	18	5	3	8	34	4	4	8	49	9	5	13	15	10	101
Wabash County	1	...	1	...	1	2	2	3	2	3	2	1	7	2	...	...	9	1	...	10	...	1	3	1	3	18	
Wabash—City	...	1	1	1	1	3	...	...	...	...	3	4	4	...	...	1	5	1	...	6	1	1	...	...	...	8	
Warren County	2	1	4	1	...	...	...	1	2	...	1	2	1	1	1	1	3	...	1	4	4	1	2	2	1	14	
Warrick County	4	1	3	4	...	3	5	4	...	3	3	2	11	1	1	...	13	2	2	3	20	2	3	3	2	2	32
Washington County	1	2	2	1	...	2	1	1	5	1	1	1	6	...	1	2	9	1	1	...	10	2	1	5	...	...	18
Wayne County	3	2	5	1	3	3	...	5	3	2	1	5	5	3	3	4	15	1	3	2	21	1	1	2	3	...	28
Richmond—City	1	5	4	3	5	1	4	3	3	4	5	2	9	3	1	3	16	2	1	2	21	4	4	7	2	2	40
Wells County	4	...	3	1	1	2	...	1	2	...	...	5	4	1	2	...	7	3	2	14	1	1	1	1	1	2	19
Bluffton—City	1	2	2	...	...	1	...	...	3	...	...	1	2	...	2	1	5	...	1	6	...	4	...	...	...	...	10
White County	3	3	3	2	2	...	2	1	1	4	1	1	5	1	4	...	8	1	...	10	4	1	1	1	3	...	19
Whitley County	2	...	...	...	...	2	1	1	1	1	1	3	9	1	2	...	16	1	1	1	18	1	...	...	...	1	21

*Includes infants aged 21 to 29 days.

TABLE A.

Number of Children Born, Sex, Color; Number of Children Born to Each Mother; Nationality of Parents.

COUNTIES	SEX		COLOR				NUMBER OF CHILDREN BORN TO EACH MOTHER												NATIONALITY OF PARENTS									
			White		Colored														American		Foreign		Not Reported					
Total No. of Children Born	Males	Females	Males	Females	Males	Females	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth	Eleventh	Twelfth and Over	Not Reported	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Not Reported
Adams	541	286	255	286	255	286	151	108	65	60	48	33	28	15	10	11	11	5	7	8	515	520	20	15	2	1	1	1
Allen	2,138	1,135	1,003	1,134	1,001	1,134	675	541	316	186	135	96	59	49	27	17	15	14	14	14	1,862	1,928	220	153	29	2	2	2
Bartholomew	524	286	256	265	252	265	149	103	95	69	35	20	18	14	14	14	14	2	2	2	505	512	8	7	1	3	3	3
Benton	285	166	119	166	119	166	108	68	44	34	16	13	7	6	8	7	1	1	1	1	276	274	4	4	1	1	1	1
Blackford	389	193	196	193	196	193	108	75	67	47	31	20	17	8	9	4	3	3	3	3	369	368	12	15	2	2	2	2
Boone	483	252	231	252	231	252	146	111	85	45	38	18	15	13	6	1	2	2	2	2	472	477	5	1	3	2	2	2
Brown	137	67	70	67	70	67	34	19	23	15	16	7	8	5	2	2	3	3	3	3	133	135	2	2	1	1	1	1
Carroll	364	189	175	189	175	189	122	80	58	36	27	15	10	6	3	6	6	1	1	1	356	358	2	2	1	1	1	1
Cass	786	408	378	405	378	405	223	217	138	87	46	35	17	7	8	3	6	2	2	2	743	742	38	38	6	6	6	6
Clark	515	272	243	253	226	253	132	110	87	55	41	36	16	16	10	5	1	4	4	4	504	510	2	2	2	2	2	2
Clay	594	335	259	334	256	334	172	121	93	63	51	37	18	9	14	8	4	4	4	4	585	582	4	6	1	1	1	1
Clinton	575	306	269	303	269	303	174	138	101	55	29	24	25	13	8	6	6	3	3	3	568	568	4	6	1	1	1	1
Crawford	311	156	155	156	155	156	77	63	55	39	23	14	12	8	6	6	5	5	5	5	305	305	2	2	3	3	3	3
Davies	685	362	323	359	317	359	156	122	133	88	61	32	28	29	9	8	10	9	9	9	671	674	2	2	3	3	3	3
Dearborn	411	192	219	192	219	192	114	94	58	41	36	29	15	13	5	2	2	2	2	2	400	398	5	7	2	2	2	2
Decatur	362	191	171	191	171	191	100	89	46	37	39	13	11	9	7	4	2	2	2	2	352	354	5	4	1	1	1	1
DeKalb	507	263	244	263	243	263	142	98	95	54	34	39	13	13	6	8	2	2	2	2	478	480	22	20	2	2	2	2
Delaware	1,037	521	516	507	504	507	294	261	164	109	73	49	29	21	16	6	7	6	6	6	989	1,007	27	19	10	10	10	10
Dubois	545	260	285	260	285	260	106	116	77	78	54	37	29	14	16	7	7	4	4	4	531	533	6	4	3	3	3	3
Dunkirk	1,061	525	536	525	535	525	332	245	145	109	77	45	36	27	21	7	12	5	5	5	984	981	59	62	7	7	7	7

TABLE A—Continued.

COUNTIES	SEX		COLOR				NUMBER OF CHILDREN BORN TO EACH MOTHER												NATIONALITY OF PARENTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
			White		Colored														American		Foreign		Not Reported																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	Total No. of Children Born	Males		Females		Males		Females		Fathers		Mothers		Fathers		Mothers		Fathers		Mothers																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

Laporte.....	1,199	610	589	609	557	1	21	353	270	153	127	88	68	41	32	27	16	13	9	2	948	900	340	288	2
Lawrence.....	821	410	411	410	410	2	1	206	188	124	87	76	26	27	15	5	5	6	1	778	789	31	34	4	
Madison.....	1,441	741	700	739	697	2	3	380	353	230	157	104	68	59	45	26	10	9	10	1	1,357	1,395	68	44	5
Marion.....	5,819	2,901	2,917	2,685	2,712	216	206	1,968	1,457	898	541	317	221	180	90	62	27	14	33	1	5,153	5,269	578	505	44
Marshall.....	590	273	317	273	315	2	2	1,770	1,110	115	69	39	33	19	10	8	9	3	5	1	570	576	12	7	1
Martin.....	324	167	157	167	157	1		79	65	47	38	23	21	26	9	10	2	1	3	321	321	1	1		
Miami.....	578	284	284	284	283	4	9	179	116	91	68	48	19	8	11	2	3	6	5	561	564	10	10	4	
Monroe.....	690	323	367	319	358	4	6	185	153	102	85	55	33	28	9	18	8	6	3	2	672	679	8	6	5
Montgomery.....	549	264	268	262	284	2	1	158	123	96	67	35	22	8	7	6	8	3	3	540	542	3	1		
Morgan.....	432	215	217	214	217	1		117	96	75	48	25	22	10	20	10	2	6	1	428	424	1			
Newton.....	252	127	125	127	125	1		58	53	46	27	17	22	12	5	5	3	2	2	239	239	9	9		
Noble.....	496	265	231	265	231	2		140	118	94	53	34	17	20	10	8	6	3	3	485	486	7	6	1	
Ohio.....	68	37	31	37	29	2		22	15	14	4	4	1	2	2	2	1	1	1	68	68				
Orange.....	476	248	227	248	228	1		142	101	61	57	35	15	11	8	7	2	1	1	403	465	2	2	2	
Owens.....	264	123	141	122	141	1		67	60	40	27	21	14	9	12	12	2	2	2	290	262			2	
Park.....	410	219	191	219	191	1		109	80	72	40	27	29	15	12	7	5	8	2	1	395	399	9	5	
Perry.....	457	246	211	245	210	1		122	79	71	60	45	24	22	13	4	6	5	3	3	452	453			
Pike.....	492	250	242	250	241	1		138	104	63	60	35	23	24	15	13	7	7	3	487	487				
Porter.....	423	237	186	237	186	7		127	85	58	47	28	24	19	12	10	5	4	3	374	391	41	27	3	
Posey.....	463	259	204	253	197	6	7	114	88	78	44	45	34	20	13	10	7	4	6	454	460	4	1	3	
Pulaski.....	299	149	150	149	150	1		74	64	47	49	17	17	9	7	5	2	3	1	263	289	12	7	1	
Putnam.....	397	214	183	214	183	1		110	80	66	44	31	24	16	8	9	4	1	3	1	399	393	3		1
Randolph.....	563	331	262	331	262	1		180	122	101	60	44	24	19	14	6	5	2	2	582	582	2	3	1	
Ripley.....	381	183	183	183	183	1		104	75	58	36	23	21	25	14	5	9	4	4	3	371	372	3	3	1
Rush.....	374	201	173	199	172	2	1	134	77	58	41	20	14	10	7	4	1	2	3	368	370	2	1	1	
Scott.....	182	96	86	96	86	1		47	33	36	26	12	9	4	3	5	3	2	2	180	181			1	
Shelby.....	521	251	250	267	267	1	3	134	124	78	55	41	31	16	17	15	7	1	1	515	519	2	2	4	
Spencer.....	472	249	228	243	218	6	5	120	106	67	58	40	26	18	10	4	5	2	2	463	464	1	3		
Stark.....	262	117	145	117	145	1		45	64	33	30	20	25	17	15	10	1	2	2	222	220	38	30		
Steuben.....	240	132	108	132	108	1		82	46	44	22	19	10	6	2	3	2	5	1	236	236				
St. Joseph.....	2,451	1,287	1,164	1,284	1,158	3	6	670	594	363	288	198	136	101	68	46	28	14	13	2	1,416	1,533	1,005	897	10
Sullivan.....	861	451	410	451	410	1		197	174	143	101	74	53	38	28	23	11	14	5	1	775	783	70	64	2
Switzerland.....	197	95	102	95	102	1		96	55	23	20	10	13	8	6	4	1	1	1	183	193	1			
Tipton.....	831	432	396	431	396	1	3	251	206	120	78	58	41	28	13	7	6	2	2	771	787	48	38	6	
Tippecanoe.....	394	205	189	205	189	1		106	96	47	30	23	20	8	6	3	2	5	1	389	389				
Union.....	111	58	53	54	53	4		31	29	16	7	10	7	4	3	3	2	1	1	110	111	1			
Vanderburgh.....	1,748	883	865	835	808	48	57	653	399	270	180	121	61	38	41	24	14	13	13	1,676	1,703	53	33	9	
Vermillion.....	643	294	269	292	267	2	2	139	108	63	63	51	35	28	23	8	4	1	1	585	601	167	155	4	
Vigo.....	1,842	934	908	907	853	27	25	504	420	318	191	136	94	58	38	29	12	13	3	1,647	1,683	158	132	12	
Wabash.....	1,553	278	275	278	272	3	3	149	131	86	56	41	23	23	13	12	8	1	1	1,640	1,644	7	4	1	

TABLE A—Continued.

COUNTIES	SEX				COLOR		NUMBER OF CHILDREN BORN TO EACH MOTHER												NATIONALITY OF PARENTS							
	Total No. of Children Born	Males	Females	White		Females	Males	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth	Eleventh	Twelfth and Over	Not Reported	American		Foreign		Not Reported	
				Males	Females																Fathers	Mothers	Fathers	Mothers		
Warren	235	126	109	126	109	68	46	48	24	14	11	9	8	5	5	8	6	2	2	2	230	230	1	2	1	1
Warrick	459	229	229	226	229	112	90	75	56	35	31	21	14	10	6	8	6	1	1	1	453	454	2	1	1	1
Washington	371	198	173	198	173	102	82	54	42	30	23	19	4	8	3	3	3	1	1	1	366	367	1		1	1
Wayne	909	456	453	438	453	281	203	150	84	64	55	27	17	9	12	2	5				853	862	41	38	6	3
Wells	462	239	223	239	223	123	111	68	53	50	24	16	5	6	4	1	1	1			453	456	3	3	3	
White	396	216	180	216	180	103	87	68	50	30	22	15	8	2	4	2	4	1	1	1	385	388	5	3	3	1
Whitley	337	174	163	174	163	95	80	50	34	20	22	16	7	6	2	1	2	2	2	2	334	333	1	2	2	
Total	61,850	31,701	30,149	31,231	29,652	470	497	17,444	13,855	9,742	6,705	4,802	3,319	2,230	1,451	1,035	609	375	413	70	55,272	56,203	5,666	5,009	294	20

TABLE B.

Number of Children Born Each Month; Grouped Ages of Parents.

COUNTIES	1914												GROUPED AGES OF PARENTS															
													Under 20		20 to 30		30 to 40		40 to 50		50 to 60		60 to 70		70 to 80		Not Reported	
	January	February	March	April	May	June	July	August	September	October	November	December	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers
Adams	48	42	47	39	48	45	52	54	44	40	37	45	7	50	244	285	190	166	80	34	12	34	2	2	2	2	2	2
Allen	180	156	103	175	180	182	181	206	175	171	172	167	16	180	1,025	1,176	774	663	231	92	33	92	3	3	3	3	3	3
Barnes	42	37	43	39	39	39	55	42	36	39	40	40	12	52	242	293	169	153	76	21	12	76	3	3	3	3	3	3
Benton	27	14	20	30	17	24	16	30	31	31	28	27	1	21	139	174	105	74	27	11	9	11	2	2	2	2	2	2
Blackford	31	37	27	24	44	28	31	34	46	21	23	43	7	52	190	215	138	101	40	15	3	15	1	1	1	1	1	1
Boone	48	34	48	40	31	38	38	44	43	37	41	41	9	43	249	296	152	119	59	22	9	22	2	2	2	2	2	2
Brown	15	11	10	13	12	9	13	13	16	9	8	8	8	16	55	75	45	34	26	7	4	7	1	1	1	1	1	1
Carroll	21	36	43	27	41	20	33	29	21	32	29	22	8	39	190	210	113	99	39	10	7	10	1	1	1	1	1	1
Cass	72	77	54	68	79	64	55	64	76	55	55	67	12	87	381	450	287	217	81	25	17	25	1	1	1	1	1	1
Clark	42	38	54	36	41	36	45	59	52	41	38	33	13	38	220	286	192	165	73	21	7	21	6	6	6	6	6	6
Clay	39	39	45	49	43	50	40	51	40	68	64	57	7	68	256	313	236	183	68	24	20	68	1	1	1	1	1	1
Cotton	55	51	45	44	46	50	57	49	54	42	36	46	13	59	291	346	191	144	66	20	7	66	4	4	4	4	4	4
Crawford	25	16	18	17	32	20	29	40	32	27	28	27	6	42	131	159	103	90	51	14	10	51	1	1	1	1	1	1
Davies	62	54	62	55	54	53	56	60	64	52	57	56	12	55	313	367	221	219	108	35	18	35	1	1	1	1	1	1
Dearborn	40	32	42	23	25	31	33	42	38	35	32	38	6	43	174	214	152	124	60	23	11	23	2	2	2	2	2	2
Decatur	35	31	27	19	32	27	28	38	34	24	23	34	12	64	160	188	136	92	39	13	7	39	1	1	1	1	1	1
DeKalb	41	45	41	53	46	39	43	37	39	39	42	42	6	49	221	271	190	149	77	31	6	77	2	2	2	2	2	2
Delaware	94	70	88	77	73	93	86	88	93	93	98	84	16	174	508	538	361	280	116	34	16	34	3	3	3	3	3	3
Dubuque	51	51	53	39	42	52	43	52	45	48	36	33	7	32	198	295	220	175	99	34	10	99	1	1	1	1	1	1
Dickinson	90	90	91	88	89	74	93	95	94	91	73	91	19	110	477	564	395	318	130	56	19	56	1	1	1	1	1	1

TABLE B.—Continued.

COUNTIES	1914												GROUPED AGES OF PARENTS											
													Under 20		30 to 40		40 to 50		50 to 60		60 to 70 to 80		Not Reported	
	January	February	March	April	May	June	July	August	September	October	November	December	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers
Fayette	23	20	24	19	23	28	33	28	21	19	22	30	6	37	166	117	71	31	9	4			3	1
Floyd	44	50	43	36	42	63	37	30	41	60	31	46	11	61	251	288	178	142	69	27	8		2	1
Fountain	47	29	31	32	33	39	40	39	41	32	32	29	8	50	191	232	157	124	48	15	15		1	1
Franklin	23	22	33	32	22	19	18	26	33	20	30	33	4	21	109	143	116	55	23	10	5		2	1
Fulton	29	37	37	34	33	29	32	33	33	32	24	43	9	42	185	212	139	123	48	11	5		1	1
Gibson	59	37	42	61	50	62	63	62	66	72	44	60	10	64	306	372	297	203	100	33	14		4	1
Grant	96	97	86	77	68	109	93	85	106	90	89	93	24	163	549	616	377	261	104	37	13		2	1
Greene	93	66	79	52	48	72	84	71	54	67	53	75	13	98	358	413	300	262	108	31	17		8	1
Hamilton	53	37	44	33	53	45	33	50	63	44	51	47	22	60	264	304	174	159	73	16	11		6	1
Hancock	21	25	27	29	23	32	39	30	30	33	26	24	7	37	147	172	122	104	46	20	9		1	1
Harrison	30	29	33	31	35	30	43	36	38	38	36	36	9	51	173	203	143	137	69	21	12		4	1
Hendricks	28	30	29	29	38	38	42	33	34	42	22	22	11	79	160	204	153	127	58	15	8		2	1
Henry	50	59	63	55	50	42	61	49	60	54	72	54	11	75	339	403	259	163	66	25	9		3	1
Howard	73	71	77	63	77	59	73	84	80	70	60	62	11	105	455	498	260	198	79	35	25		6	1
Huntington	51	42	60	56	52	67	66	55	53	56	53	50	13	64	322	372	247	185	77	36	18		1	1
Jackson	60	56	58	45	56	38	45	44	60	46	34	39	6	62	254	309	222	171	70	28	15		4	1
Jasper	28	28	22	21	24	23	17	25	20	27	27	27	1	29	124	190	111	81	39	15	6		4	1
Jay	45	48	52	35	47	40	48	42	70	56	37	45	9	76	268	297	200	158	70	31	10		5	1
Jefferson	25	22	41	30	42	38	25	32	38	36	41	26	2	46	169	199	154	131	54	18	9		3	1
Jennings	21	18	29	22	26	28	29	34	22	25	20	19	7	28	111	150	93	99	73	23	12		1	1
Johnson	35	37	28	32	38	39	51	33	39	38	33	35	7	46	199	230	145	140	71	17	8		2	1
Knox	88	80	81	72	82	116	90	97	99	90	91	97	10	73	449	572	407	303	160	58	20		9	2
Kosciusko	50	42	58	50	48	52	53	54	54	42	60	48	10	70	309	346	198	154	62	22	15		7	1
Lagrange	38	27	25	34	33	26	32	21	26	28	20	30	9	37	158	167	120	109	41	20	5		1	1
Lake	345	310	337	301	286	315	336	331	363	351	326	318	7	298	1,685	2,368	1,701	1,079	430	134	44		12	1

Laporte.....	86	101	91	111	83	86	107	108	127	102	91	98	8	92	550	694	442	356	157	49	27	3	1
Lawrence.....	51	67	63	88	66	82	66	72	83	88	66	62	25	124	385	440	263	213	107	24	18	1	1
Madison.....	113	129	117	117	110	160	144	121	161	144	108	107	31	186	699	773	493	410	188	61	13	4	8
Marion.....	928	439	529	465	476	507	632	494	514	446	441	453	107	688	2,792	3,377	2,114	1,517	658	192	54	6	44
Marshall.....	39	44	54	46	60	43	55	42	42	46	59	60	10	65	271	327	214	167	81	24	5	1	1
Martin.....	27	24	20	28	39	35	28	26	24	31	18	24	3	37	142	182	120	85	45	18	10	2	2
Miami.....	50	59	43	41	39	40	47	44	50	44	53	63	12	55	269	333	210	154	71	33	2	1	4
Monroe.....	47	61	48	62	69	53	47	74	57	75	49	48	22	89	306	383	256	176	83	28	9	1	8
Montgomery.....	49	44	31	42	49	47	53	44	49	61	46	38	50	67	260	301	196	153	65	20	7	1	4
Morgan.....	44	31	35	42	41	34	46	40	34	40	21	24	9	62	191	225	149	128	62	18	9	1	4
Newton.....	19	16	28	30	22	23	22	23	24	20	13	21	2	24	115	142	94	68	32	14	4	1	1
Noble.....	49	33	52	48	35	48	56	40	35	49	25	41	6	64	233	280	166	139	82	19	4	1	1
Ohio.....	8	1	10	5	7	4	7	4	7	4	6	5	7	37	39	16	17	14	4	1	1	1	1
Orange.....	31	60	39	46	38	34	34	35	38	48	33	43	7	65	221	243	147	143	63	16	15	1	3
Owen.....	18	19	23	20	30	27	26	25	12	26	14	24	6	32	113	135	97	82	39	13	3	1	3
Parke.....	36	40	29	33	39	34	41	35	36	29	33	25	12	56	176	197	145	124	68	24	9	1	3
Perry.....	31	29	41	40	34	47	40	45	43	32	36	34	7	41	187	244	180	138	65	28	8	1	5
Pike.....	42	35	45	38	42	42	36	47	52	41	40	32	14	71	238	249	165	146	57	19	10	1	2
Porter.....	38	37	41	34	31	37	27	35	36	35	41	31	1	38	175	232	165	123	66	25	9	1	2
Poey.....	39	41	35	30	40	43	44	36	41	40	26	49	2	44	195	243	171	151	78	23	7	1	7
Pulaski.....	33	21	21	36	29	16	19	22	29	27	25	22	2	29	128	181	122	71	34	15	7	2	1
Putnam.....	38	28	32	31	35	30	39	35	27	28	37	28	4	36	187	226	142	114	45	16	10	1	1
Randolph.....	49	60	39	45	53	47	59	44	57	69	40	41	15	66	297	847	201	151	64	21	7	1	1
Ripley.....	20	32	33	28	35	31	29	41	42	29	35	26	2	28	145	189	144	143	69	15	13	1	1
Rush.....	35	27	32	29	34	27	27	36	37	33	27	30	6	49	177	208	134	97	39	17	11	2	2
Scott.....	23	7	5	15	8	21	27	18	21	11	16	10	5	22	89	99	54	25	10	5	5	1	1
Shelby.....	37	56	35	42	37	53	60	43	34	42	47	45	9	68	249	274	173	146	74	33	8	1	7
Spencer.....	48	55	37	29	40	30	41	38	49	38	39	28	6	39	200	256	177	122	69	17	11	2	1
Stark.....	23	29	21	28	21	22	27	19	19	23	12	18	1	20	102	141	104	86	44	12	8	1	1
Steuben.....	24	21	13	24	17	24	26	21	16	21	17	16	1	23	110	140	92	62	28	11	6	1	1
St. Joseph.....	191	205	242	201	202	209	195	205	213	203	223	162	22	212	1,112	1,389	936	735	316	95	33	12	12
Sullivan.....	80	74	55	67	64	79	76	64	77	91	68	66	11	104	355	445	322	248	184	50	22	3	8
Switzerland.....	15	15	22	12	16	10	15	22	21	18	16	15	2	27	89	109	67	52	30	6	6	1	1
Tipton.....	66	53	67	71	75	67	73	81	52	84	75	67	11	73	255	307	255	103	38	19	3	7	2
Tipton.....	33	28	34	29	27	30	47	26	31	47	23	39	3	62	190	207	127	109	56	21	8	2	1
Union.....	5	4	10	14	11	9	6	7	9	15	11	10	3	11	47	64	39	30	17	6	4	1	1
Vanderburgh.....	143	145	168	112	110	148	168	154	146	136	153	135	41	207	812	963	628	490	269	76	33	1	13
Vermilion.....	52	32	50	55	51	49	37	44	35	57	52	52	8	64	228	300	224	170	75	22	15	1	1
Vigo.....	148	142	177	128	132	146	165	168	144	190	152	160	32	234	871	1,006	631	503	224	72	39	3	17
Wabash.....	45	44	50	51	41	43	57	44	46	40	52	38	8	47	268	325	198	154	70	22	12	2	2

TABLE B.—Continued.

COUNTIES	1914												GROUPED AGES OF PARENTS													
													Under 20		20 to 30		30 to 40		40 to 50		50 to 60		60 to 70 to 80		Not Reported	
	January	February	March	April	May	June	July	August	September	October	November	December	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers
Warren.....	17	16	12	23	26	24	19	17	16	19	17	29	3	31	106	119	77	73	37	8	6	1	1	3	3	2
Warwick.....	47	30	27	36	24	28	49	46	40	43	48	41	8	42	198	245	164	142	68	24	13	4	1	2	1	1
Washington.....	31	18	35	23	43	30	30	38	32	37	26	28	6	38	166	195	124	114	59	20	6	5	1	1	1	1
Wayne.....	85	66	72	74	72	73	71	75	77	87	77	80	12	119	458	474	306	269	111	37	9	2	2	2	1	1
Wells.....	37	45	30	30	29	41	42	48	41	48	37	34	7	49	240	262	153	109	53	18	3	3	2	2	1	1
White.....	40	25	41	37	24	31	30	28	45	33	28	24	9	41	179	223	146	116	46	11	8	2	2	1	1	1
Whitely.....	24	31	32	20	23	32	36	26	31	36	20	26	15	70	148	162	136	87	30	15	4	1	1	1	1	1
Total.....	5,246	4,887	5,270	4,827	4,993	5,103	5,431	5,395	5,406	5,332	4,865	4,975	972	6,763	28,410	34,216	22,384	17,549	7,855	2,623	1,112	14	109	18	373	48

TABLE C.

Plural Births, Illegitimate Births, Stillbirths.

COUNTIES	PLURAL BIRTHS—TWINS, 617—TRIPLETS, 2							
	No.	Sex of Children		Nationality of Mother			Color of Mother	
		Males	Females	Amer- ican	Foreign eign	Not Re- ported	White	Col- ored
Adams.....	6	8	4	6			6	
Allen.....	28	30	26	28			28	
Bartholomew..	4	6	2	4			4	
Benton.....	4	7	1	3	1		4	
Blackford.....	6	10	2	6			6	
Boone.....	3	2	4	3			3	
Brown.....								
Carroll.....	5	8	2	5			5	
Cass.....	5	4	6	5			5	
Clark.....	3	2	4	3			3	
Clay.....	5	4	6	5			5	
Clinton.....	6	3	9	6			6	
Crawford.....	6	6	6	6			6	
Davies.....	9	9	9	9			9	
Dearborn.....	6	9	3	6			6	
Decatur.....	4	3	5	4			4	
DeKalb.....	7	7	7	7			7	
Delaware.....	11	11	11	11			11	
Dubois.....	8	9	7	8			8	
Elkhart.....	11	13	9	9	2		11	
Fayette.....	6	6	6	6			6	
Floyd.....	4	3	5	4			3	1
Fountain.....	2	1	3	2			2	
Franklin.....	3	3	3	3			3	
Fulton.....	7	6	8	7			7	
Gibson.....	5	7	3	5			5	
Grant.....	12	9	15	12			12	
Greene.....	9	11	7	8	1		9	
Hamilton.....	4	8		4			4	
Hancock.....	6	8	4	6			6	
Harrison.....	2	1	3	2			2	
Hendricks.....	2	2	2	2			2	
Henry.....	6	6	6	6			6	
Howard.....	12	11	13	12			12	
Huntington.....	4	3	5	4			4	
Jackson.....	10	11	9	10			10	
Jasper.....	3	3	3	3			3	
Jay.....	3	4	2	3			3	
Jefferson.....	2	2	2	2			2	
Jennings.....	3		6	3			3	
Johnson.....	5	4	6	5			5	
Knox.....	15	16	14	15			14	1
Kosciusko.....	9	11	7	9			9	
Lagrange.....	4	5	3	4			4	
Lake.....	39	43	35	13	26		39	
Laporte.....	11	10	12	9	2		11	
Lawrence.....	8	4	12	7	1		8	
Madison.....	11	14	8	11			11	
Marion.....	44	49	39	40	4		39	5
Marshall.....	7	7	7	7			7	
Martin.....	2	1	3	2			2	
Miami.....	3	2	4	3			3	
Monroe.....	5	4	6	5			5	
Montgomery.....	6	9	3	6			6	
Morgan.....	8	4	12	8			8	

TABLE C—Continued.

COUNTIES	PLURAL BIRTHS—TWINS, 617—TRIPLETS, 2							
	No.	Sex of Children		Nationality of Mother			Color of Mother	
		Males	Females	Amer- ican	For- eign	Not Re- ported	White	Col- ored
Newton.....	4	7	2	4			4	
Noble.....	3	3	3	3			3	
Ohio.....								
Orange.....	8	7	9	8			8	
Owen.....	2		4	2			2	
Parke.....	6	5	7	6			6	
Perry.....	4	4	4	4			4	
Pike.....	5	8	2	5			5	
Porter.....	5	5	5	4	1		5	
Posey.....	2	4		2			2	
Pulaski.....	3	3	3	3			3	
Putnam.....	4	6	2	4			4	
Randolph.....	8	7	9	7	1		8	
Ripley.....	6	5	7	6			6	
Rush.....	3	4	2	3			3	
Scott.....	1	1	1	1			1	
Shelby.....								
Spencer.....	6	5	7	6			6	
Starke.....	2	3	1	2			2	
Steuben.....	4	2	6	4			4	
St. Joseph.....	20	23	17	13	7		19	1
Sullivan.....	13	11	16	12	1		13	
Switzerland.....	3	2	4	3			3	
Tippecanoe.....	6	2	10	6			5	1
Tipton.....	5	6	4	5			5	
Union.....								
Vanderburgh.....	10	11	9	8	2		10	
Vermillion.....	7	6	8	6	1		7	
Vigo.....	25	34	16	25			25	
Wabash.....	5	3	7	5			5	
Warren.....	3	3	3	3			3	
Warrick.....	4	4	4	4			4	
Washington.....	3	3	3	3			3	
Wayne.....	9	8	10	9			8	1
Wells.....	4	6	2	4			4	
White.....	5	5	5	5			5	
Whitley.....	2	1	3	2			2	
Grand Total..	619	646	594	569	50		608	10

TABLE C—Continued.

Plural Births, Illegitimate Births, Stillbirths.

COUNTIES	ILLEGITIMATE BIRTHS.							
	No.	Sex of Children		Nationality of Mother			Color of Mother	
		Males	Females	Amer- ican	For- eign	Not Re- ported	White	Col- ored
Adams.....	3	2	1	3			3	
Allen.....	31	14	17	30	1		31	
Bartholomew..	10	3	7	10			10	
Benton.....	1	1		1			1	
Blackford.....	8	3	5	7	1		8	
Boone.....	5	2	3	5			5	
Brown.....	6	3	3	6			6	
Carroll.....	2	2			2		2	
Cass.....	9	3	6	9			9	
Clark.....	13	6	7	13			9	4
Clay.....	7	4	3	7			7	
Clinton.....	1	1		1			1	
Crawford.....	6	3	3	6			6	
Daviess.....	8	2	6	8			7	1
Dearborn.....	3	1	2	3			3	
Decatur.....	6	3	3	6			6	
Dekalb.....	5	2	3	5			5	
Delaware.....	19	11	8	18	1		18	1
Dubois.....	5	2	3	5			5	
Elkhart.....	18	10	8	18			18	
Fayette.....	4	2	2	4			4	
Floyd.....	10	7	3	9	1		9	1
Fountain.....	4	3	1	4			4	
Franklin.....	6	4	2	6			6	
Fulton.....	5	3	2	5			5	
Gibson.....	14	8	6	14			12	2
Grant.....	18	6	12	18			17	1
Greene.....	11	7	4	11			11	
Hamilton.....	8	2	6	8			6	2
Hancock.....	2		2	2			2	
Harrison.....	5	1	4	5			5	
Hendricks.....	4	3	1	4			4	
Henry.....	6	3	3	6			6	
Howard.....	8	3	5	8			8	
Huntington....	4	2	2	4			4	
Jackson.....	8	4	4	8			8	
Jasper.....	3	3		3			3	
Jay.....	9	5	4	9			8	1
Jefferson.....	7	4	3	7			7	
Jennings.....	4	3	1	4			4	
Johnson.....	5	3	2	5			5	
Knox.....	11	7	4	11			10	1
Kosciusko.....	8	8		8			8	
Lagrange.....	2	1	1	2			2	
Lake.....	21	15	6	15	6		21	
Laporte.....	10	2	8	8	2		9	1
Lawrence.....	12	7	5	12			12	
Madison.....	22	14	8	22			22	
Marion.....	165	83	82	164	1		115	50
Marshall.....	6	3	3	6			6	
Martin.....	5	2	3	5			5	
Miami.....	6	3	3	4	2		6	
Monroe.....	8	2	6	8			7	1
Montgomery....	8	4	4	8			8	
Morgan.....	5	1	4	5			5	

TABLE C—Continued.

COUNTIES	ILLEGITIMATE BIRTHS.							
	No.	Sex of Children		Nationality of Mother			Color of Mother	
		Males	Females	Amer- ican	For- eign	Not Re- ported	White	Col- ored
Newton.....	1	1	.....	1	.....	.....	1	.....
Noble.....	3	2	1	2	.....	1	3	.....
Ohio.....	1	.....	1	1	.....	.....	1	.....
Orange.....	7	4	3	7	.....	.....	7	.....
Owen.....	5	3	2	5	.....	.....	5	.....
Parke.....	4	1	3	4	.....	.....	4	.....
Perry.....	9	3	6	9	.....	.....	8	1
Pike.....	7	3	4	7	.....	.....	7	.....
Porter.....	3	2	1	3	.....	.....	3	.....
Posey.....	9	5	4	9	.....	.....	7	2
Pulaski.....	4	2	2	4	.....	.....	4	.....
Putnam.....	3	1	2	3	.....	.....	3	.....
Randolph.....	5	3	2	5	.....	.....	5	.....
Ripley.....	3	1	2	3	.....	.....	3	.....
Rush.....	1	.....	1	1	.....	.....	1	.....
Scott.....	3	2	1	3	.....	.....	3	.....
Shelby.....	6	6	.....	6	.....	.....	6	.....
Spencer.....	1	1	.....	1	.....	.....	1	.....
Starke.....	5	1	4	5	.....	.....	5	.....
Steuben.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Joseph.....	23	17	6	17	6	.....	22	1
Sullivan.....	10	5	5	10	.....	.....	10	.....
Switzerland.....	4	2	2	4	.....	.....	4	.....
Tippecanoe.....	16	8	8	15	1	.....	15	1
Tipton.....	8	5	3	8	.....	.....	8	.....
Union.....	2	1	1	2	.....	.....	2	.....
Vanderburgh.....	51	18	33	51	.....	.....	33	18
Vermillion.....	10	6	4	9	1	.....	9	1
Vigo.....	30	12	18	29	1	.....	26	4
Wabash.....	7	5	2	7	.....	.....	7	.....
Warren.....	3	1	2	3	.....	.....	3	.....
Warrick.....	4	2	2	4	.....	.....	4	.....
Washington.....	3	2	1	3	.....	.....	3	.....
Wayne.....	17	11	6	17	.....	.....	14	3
Wells.....	4	3	1	4	.....	.....	4	.....
White.....	5	3	2	5	.....	.....	5	.....
Whitley.....	4	4	.....	4	.....	.....	4	.....
Grand Total..	881	452	429	854	26	1	784	97

TABLE C—Continued.

Plural Births, Illegitimate Births, Stillbirths.

COUNTIES	STILLBIRTHS.							
	No.	Sex of Children		Nationality of Mother			Color of Mother	
		Males	Females	Amer- ican	For- eign	Not Re- ported	White	Col- ored
Adams.....	15	10	5	13	2		15	
Allen.....	50	26	24	45	5		50	
Bartholomew.....	17	9	8	17			17	
Benton.....	9	8	1	9			9	
Blackford.....	8	5	3	8			8	
Boone.....	18	7	11	18			18	
Brown.....	5	3	2	5			5	
Carroll.....	14	11	3	14			14	
Cass.....	38	19	19	37	1		37	1
Clark.....	19	10	9	19			18	1
Clay.....	19	11	8	19			19	
Clinton.....	20	10	10	20			20	
Crawford.....	8	4	4	8			8	
Daviess.....	26	14	12	26			24	2
Dearborn.....	12	7	5	12			12	
Decatur.....	13	6	7	13			13	
Dekalb.....	24	13	11	23	1		24	
Delaware.....	30	14	16	29	1		29	1
Dubois.....	11	5	6	10	1		11	
Elkhart.....	35	18	17	31	4		35	
Fayette.....	12	4	8	12			12	
Floyd.....	21	14	7	20	1		21	
Fountain.....	10	7	3	10			10	
Franklin.....	11	3	8	11			11	
Fulton.....	13	7	6	13			13	
Gibson.....	31	18	13	31			31	
Grant.....	36	27	9	35	1		34	2
Greene.....	26	16	10	26			26	
Hamilton.....	15	8	7	15			15	
Hancock.....	16	10	6	16			16	
Harrison.....	7	3	4	7			7	
Hendricks.....	5	3	2	5			5	
Henry.....	26	15	11	26			26	
Howard.....	35	21	14	33	2		35	
Huntington.....	23	14	9	23			23	
Jackson.....	18	8	10	18			18	
Jasper.....	7	5	2	6	1		7	
Jay.....	16	7	9	15	1		16	
Jefferson.....	17	11	6	17			17	
Jennings.....	9	3	6	9			9	
Johnson.....	12	5	7	12			12	
Knox.....	41	26	15	39	2		41	
Kosciusko.....	16	7	9	16			16	
Lagrange.....	14	9	5	13	1		14	
Lake.....	124	72	52	61	63		124	
Laporte.....	29	16	13	21	8		29	
Lawrence.....	25	13	12	24	1		25	
Madison.....	49	29	20	46	3		47	2
Marion.....	232	119	113	217	15		203	29
Marshall.....	15	9	6	15			15	
Martin.....	6	4	2	6			6	
Miami.....	8	6	2	8			8	
Monroe.....	20	11	9	20			19	1
Montgomery.....	13	8	5	13			13	
Morgan.....	17	16	1	16	1		17	

TABLE C—Continued.

COUNTIES	STILLBIRTHS.							
	Sex of Children			Nationality of Mother			Color of Mother	
	No.	Males	Females	Amer- ican	For- eign	Not Re- ported	White	Col- ored
Newton.....	6	3	3	6			6	
Noble.....	11	6	5	11			11	
Ohio.....	5	3	2	5			5	
Orange.....	15	9	6	15			15	
Owen.....	10	7	3	10			10	
Parke.....	13	10	3	13			12	1
Perry.....	9	6	3	9			9	
Pike.....	16	7	9	16			16	
Porter.....	9	5	4	9			9	
Posey.....	15	10	5	15			15	
Pulaski.....	11	8	3	11			11	
Putnam.....	12	7	5	12			12	
Randolph.....	21	9	12	21			21	
Ripley.....	8	4	4	8			8	
Rush.....	12	6	6	12			12	
Scott.....	6	2	4	6			6	
Shelby.....	4	4		4			4	
Spencer.....	17	9	8	17			16	1
Starke.....	11	5	6	10	1		11	
Steuben.....	15	8	7	15			15	
St. Joseph.....	90	44	46	61	29		89	1
Sullivan.....	30	11	19	25	5		30	
Switzerland.....	9	3	6	9			9	
Tippecanoe.....	23	11	12	23			23	
Tipton.....	14	11	3	13	1		14	
Union.....	5	3	2	5			5	
Vanderburgh.....	54	30	24	51	3		46	8
Vermillion.....	21	8	13	17	4		21	
Vigo.....	79	45	34	74	5		75	4
Wabash.....	26	16	10	26			26	
Warren.....	8	5	3	8			8	
Warrick.....	21	12	9	21			21	
Washington.....	8	6	2	8			8	
Wayne.....	35	20	15	33	2		35	
Wells.....	6	5	1	6			6	
White.....	16	8	8	16			16	
Whitley.....	14	9	5	14			14	
Grand Total..	2051	1,139	912	1,886	165		1,997	54

TABLE D.

Number of Births and Rates per 1,000 Population by Counties for Year 1915.

COUNTIES.	Number	Rate	COUNTIES.	Number	Rate
NORTHERN COUNTIES.	23,328	23.7	CENTRAL COUNTIES—Continued.		
Adams.....	541	24.6	Madison.....	1,441	21.7
Allen.....	2,138	21.1	Marion.....	5,819	20.0
Benton.....	285	22.4	Monroe.....	690	28.2
Blackford.....	389	24.1	Montgomery.....	549	18.0
Carroll.....	364	20.2	Morgan.....	432	20.1
Cass.....	786	20.9	Owen.....	264	18.7
Dekalb.....	507	20.0	Parke.....	410	18.4
Elkhart.....	1,061	20.8	Putnam.....	397	19.3
Fulton.....	396	23.5	Randolph.....	593	20.1
Grant.....	1,089	20.8	Rush.....	374	19.1
Howard.....	849	23.7	Shelby.....	521	18.7
Huntington.....	661	22.5	Tippecanoe.....	831	20.3
Jasper.....	289	22.0	Tipton.....	394	22.4
Jay.....	565	21.1	Union.....	111	17.7
Kosciusko.....	611	21.7	Vermillion.....	563	27.7
Lagrange.....	340	22.4	Vigo.....	1,842	18.7
Lake.....	3,919	36.4	Warren.....	235	21.5
Laporte.....	1,199	24.9	Wayne.....	909	19.9
Marshall.....	590	24.3			
Miami.....	578	19.1	SOUTHERN COUNTIES.	15,031	22.2
Newton.....	252	24.0	Clark.....	515	17.0
Noble.....	496	20.1	Crawford.....	311	25.8
Porter.....	423	20.3	Davies.....	686	24.6
Pulaski.....	299	22.4	Dearborn.....	411	18.9
Starke.....	262	24.6	Dubois.....	546	27.4
Steuben.....	240	16.6	Floyd.....	523	17.2
St. Joseph.....	2,451	25.9	Gibson.....	678	22.3
Wabash.....	553	20.5	Greene.....	814	20.2
Wells.....	462	20.4	Harrison.....	415	20.5
White.....	396	22.4	Jackson.....	581	23.5
Whitley.....	337	19.7	Jefferson.....	396	19.3
			Jennings.....	303	21.2
CENTRAL COUNTIES.	23,491	20.1	Knox.....	1,083	25.9
Bartholomew.....	524	20.9	Lawrence.....	821	25.8
Boone.....	483	19.2	Martin.....	324	24.4
Brown.....	137	17.1	Ohio.....	68	15.9
Clay.....	594	17.8	Orange.....	475	27.4
Clinton.....	575	21.0	Perry.....	457	24.9
Decatur.....	362	19.1	Pike.....	492	25.0
Delaware.....	1,037	19.7	Posey.....	463	21.2
Fayette.....	290	19.6	Ripley.....	381	19.2
Fountain.....	424	20.5	Scott.....	182	20.8
Franklin.....	301	19.6	Spencer.....	472	22.8
Hamilton.....	553	20.3	Sullivan.....	861	24.5
Hancock.....	339	17.2	Switzerland.....	197	19.8
Hendricks.....	387	18.5	Vanderburgh.....	1,748	21.4
Henry.....	672	21.8	Warrick.....	459	20.4
Johnson.....	438	21.2	Washington.....	371	21.2
State.	61,850	21.9	Highest Rate, Lake County.	3,919	36.4
Males.	31,701		Lowest Rate, Ohio County.	68	15.9
Females.	30,149				
White.....	60,883				
Colored.....	967				

TABLE E.

Marriages by Months, Color and Nationality, for the Year Ending December 31, 1915.

COUNTIES	MONTHS												COLOR		NATIONALITY						Total		
	January	February	March	April	May	June	July	August	September	October	November	December	White	Colored	American		Foreign		Not Reported				
															Grooms	Brides	Grooms	Brides	Grooms	Brides		Grooms	Brides
Adams.....	9	14	11	16	16	18	7	10	20	16	23	28	188	11	188	188	66	52	2	2	188	188	
Allen.....	45	55	35	61	58	136	53	60	83	84	95	77	831	3	774	787	216	2	2	2	787	842	
Bartholomew.....	10	24	18	22	17	16	8	12	26	17	20	28	215	3	218	216	85	1	2	2	216	218	
Benton.....	13	15	2	6	8	11	4	0	9	4	4	9	85	9	84	85	1	1	1	1	85	85	
Blackford.....	12	13	13	7	12	11	10	7	12	20	19	11	147	7	145	146	2	1	1	1	146	147	
Boone.....	13	16	9	13	19	15	18	20	24	19	18	20	204	1	204	204	204	204	204	204	204	204	
Brown.....	2	5	8	6	2	2	4	4	8	3	8	9	60	9	60	60	60	60	60	60	60	60	
Carroll.....	11	15	9	12	1	11	8	10	15	9	17	9	127	9	127	127	127	127	127	127	127	127	
Cass.....	18	22	23	33	16	29	20	24	26	46	28	29	311	3	261	272	37	28	16	14	272	314	
Clark.....	47	19	17	90	73	95	63	8	144	119	120	114	773	136	901	906	7	2	1	1	906	909	
Clay.....	17	21	26	35	13	25	25	25	10	44	42	31	311	3	308	313	6	1	1	1	313	314	
Clinton.....	18	15	12	21	8	15	14	16	28	26	20	27	219	1	218	218	2	2	2	2	218	220	
Crawford.....	10	10	14	10	9	10	9	17	13	12	8	23	145	1	145	145	145	145	145	145	145	145	
Davies.....	8	15	17	15	22	14	13	16	21	29	26	25	220	1	220	220	220	220	220	220	221	221	
Dearborn.....	7	19	15	22	15	18	19	11	19	18	9	16	188	1	188	188	188	188	188	188	188	188	
Deeratur.....	10	8	9	18	4	13	15	19	14	16	14	17	157	1	155	157	2	2	2	2	157	157	
Dekalb.....	7	19	12	20	3	20	13	9	11	23	19	21	181	1	176	179	5	5	5	5	179	181	
Delaware.....	20	28	42	34	39	51	34	49	50	38	36	48	458	11	436	439	9	9	24	25	439	460	
Dubois.....	11	9	4	20	22	12	8	18	18	21	16	10	169	1	169	169	169	169	169	169	169	169	
Elkhart.....	31	39	41	46	26	57	33	38	42	59	59	54	533	2	513	524	19	8	3	3	524	535	

Fayette.....	11	14	6	9	4	19	9	11	13	17	11	7	124	7	128	127	3	4	4	131
Floyd.....	17	16	8	21	23	20	21	23	20	31	33	26	256	10	259	260	4	1	3	266
Fountain.....	23	7	19	10	13	17	8	17	17	17	14	19	189	189	188	188	4	1	2	189
Franklin.....	8	4	8	12	6	4	5	4	13	15	9	11	103	103	103	103	103	103	103	103
Fulton.....	6	7	13	15	13	15	6	7	11	17	14	27	150	150	150	150	150	150	150	160
Gibson.....	16	11	16	20	14	12	22	24	28	22	24	16	207	18	221	222	4	3	225	225
Grant.....	28	29	47	34	63	43	49	35	43	43	46	38	481	16	492	494	5	3	497	497
Greene.....	19	24	36	20	26	23	19	17	28	31	29	50	322	31	316	317	6	5	322	322
Hamilton.....	17	17	17	15	18	20	7	14	26	35	24	22	231	1	230	232	2	1	232	232
Hancock.....	10	18	11	13	11	14	19	14	18	20	19	15	181	1	181	181	1	1	182	182
Harrison.....	7	13	7	6	8	11	6	9	12	12	8	25	124	124	124	124	124	124	124	124
Hendricks.....	6	11	8	10	12	10	10	12	18	13	5	13	118	1	119	119	1	1	119	119
Henry.....	43	12	15	14	18	31	28	29	31	33	29	36	313	5	314	315	4	3	318	318
Howard.....	24	28	14	30	29	42	33	38	32	28	34	353	7	345	362	14	6	6	365	365
Huntington.....	22	20	21	17	20	23	17	24	31	23	31	31	270	270	271	271	5	4	275	275
Jackson.....	7	13	14	19	15	10	16	13	19	19	16	19	180	180	180	180	1	1	180	180
Jasper.....	14	19	14	12	3	14	8	6	11	11	5	14	131	131	104	99	20	25	7	131
Jay.....	15	17	9	18	6	12	10	18	14	8	21	20	163	163	137	130	13	9	28	168
Jackson.....	10	16	9	28	14	15	17	15	16	13	32	31	207	9	210	212	6	4	216	216
Jennings.....	6	14	14	12	7	8	2	9	9	8	9	17	111	111	113	113	1	1	113	113
Johnson.....	12	12	6	11	11	5	11	16	17	9	14	17	136	5	141	141	141	141	141	141
Knorr.....	35	38	32	39	35	37	32	35	47	52	51	56	483	6	468	479	21	10	1	489
Koestel.....	10	10	17	15	18	21	14	14	28	27	15	34	223	223	213	221	5	1	1	223
Laprange.....	8	14	6	11	8	9	8	11	13	11	10	17	126	126	126	126	126	126	126	126
Lake.....	205	200	208	213	251	269	361	273	286	305	281	225	2,963	84	2,267	2,340	808	724	2	3,077
Laporte.....	38	30	18	25	33	61	53	52	40	56	36	31	464	9	394	410	79	63	473	473
Lafayette.....	29	16	16	29	18	29	20	22	24	40	24	6	265	3	265	267	4	2	269	269
Madison.....	38	51	52	44	49	64	38	41	51	61	62	72	610	13	606	612	17	11	623	623
Marion.....	197	199	214	305	256	429	258	279	306	285	294	329	2,628	823	2,758	2,758	653	546	25	3,351
Marshall.....	25	14	20	20	10	26	13	11	25	14	12	31	221	4	220	223	6	2	17	3,225
Martin.....	5	4	9	5	9	11	7	7	12	8	12	17	106	106	106	106	106	106	106	106
Miami.....	21	20	30	28	16	20	19	15	27	41	26	31	291	3	294	294	31	26	294	294
Monroe.....	19	18	20	17	16	17	18	18	24	22	25	16	25	231	6	237	237	3	237	237
Montgomery.....	12	20	17	4	18	20	8	19	20	29	18	26	209	2	208	208	3	3	211	211
Morgan.....	13	11	10	14	12	9	20	20	16	20	24	28	197	197	197	197	197	197	197	197
Newton.....	13	1	3	2	3	4	4	2	12	9	5	9	67	67	67	67	67	67	67	67
Noble.....	10	26	18	10	2	23	9	18	13	25	13	25	192	192	192	192	192	192	192	192
Ohio.....	1	4	5	6	2	3	1	1	1	1	1	1	36	36	37	37	1	2	1	38
Orange.....	17	10	13	17	13	16	16	12	14	16	16	18	164	7	170	170	1	1	171	171
Owen.....	15	8	7	9	3	7	9	12	14	10	12	9	115	115	106	106	1	8	9	116

TABLE E—Continued.

COUNTIES	MONTHS												COLOR		NATIONALITY						Total				
	January	February	March	April	May	June	July	August	September	October	November	December	White	Colored	American		Foreign		Not Reported						
															Grooms	Brides	Grooms	Brides	Grooms	Brides		Grooms	Brides	Grooms	Brides
Parke.....	11	13	10	12	8	11	7	13	9	18	13	14	137	2	133	137	6	2				139			
Perry.....	13	8	9	19	6	8	11	14	18	23	16	16	154	7	157	161	4					161			
Pike.....	10	8	8	15	3	7	9	12	17	24	18	17	142		142	142						142			
Porter.....	14	27	21	24	17	47	15	22	26	18	28	26	285		260	264	44	40	31	44		285			
Posey.....	18	15	21	20	16	32	15	11	27	30	31	28	260	4	210	201						264			
Pulaski.....	10	18	7	7	11	11	1	8	5	20	10	7	115		115	115						115			
Pulnam.....	9	13	8	19	9	13	10	20	24	18	14	29	186		186	186						186			
Randolph.....	16	26	16	10	10	29	19	19	26	23	33	33	248	2	249	250	1					250			
Ripley.....	8	14	5	15	10	11	6	8	7	12	14	18	128		126	128	2	2				128			
Rush.....	12	9	6	11	5	14	10	11	16	18	6	20	137	1	138	138						138			
Scott.....	5	9	2	5	6	6	1	6	6	10	10	13	79		79	79						79			
Shelby.....	17	24	14	13	27	12	16	20	20	28	26	19	232	4	236	236						236			
Spencer.....	18	25	20	29	24	26	16	33	15	24	23	22	261	17	276	277	2	1				278			
Stark.....	3	7	6	14	6	10	6	8	8	6	20	8	100		98	92	12	8				100			
Steuben.....	11	10	15	15	6	8	6	7	9	14	16	13	128	2	129	130	1					130			
St. Joseph.....	36	89	58	62	63	108	99	77	87	93	86	78	931	5	708	754	226	178	2	4		936			
Sullivan.....	15	18	22	18	28	23	22	27	23	33	30	38	287		280	282	7	5				287			
Switzerland.....	3	2	6	1	9	5	4	6	5	2	5	3	51	2	53	53						53			
Typeeance.....	24	33	25	34	26	56	29	27	36	45	40	42	414	6	404	414	16	5	1			420			
Tipton.....	10	13	15	6	5	15	4	9	12	12	13	21	135		135	135						135			
Union.....	4	3	5	5	2	4	3	3	8	8	9	9	58	2	58	58	2	2				60			
Vanderburgh.....	57	70	75	86	64	95	64	122	76	104	81	125	926	92	984	1,004	34	14				1,018			
Vermilion.....	7	6	14	10	12	13	7	14	9	11	8	6	114	3	93	100	21	14	3	3		117			
Vigo.....	83	84	76	102	87	88	75	114	121	116	116	135	1,124	57	1,124	1,137	83	69				1,207			
Wabash.....	15	19	19	19	11	24	11	10	23	23	30	34	236	2	236	236			2	2		238			

TABLE E—Continued.

COUNTIES	MONTHS												COLOR		NATIONALITY						Total		
	January	February	March	April	May	June	July	August	September	October	November	December	White	Colored	American		Foreign		Not Reported				
															Grooms	Brides	Grooms	Brides	Grooms	Brides		Grooms	Brides
Parke	11	13	10	12	8	11	7	13	9	18	13	14	137	2	133	137	6	2			139		
Perry	13	8	9	19	6	8	11	14	18	23	16	16	154	7	157	161	4				161		
Pike	10	8	8	15	3	7	9	12	17	24	12	17	142		142	142					142		
Porter	14	27	21	24	17	47	15	22	26	18	28	28	285		260	201	44	40	31	44	285		
Pocoy	18	15	21	20	16	32	15	11	27	30	31	28	260	4	264	264					264		
Pulaski	10	18	7	7	11	11	1	8	5	20	10	7	115		115	115					115		
Putnam	9	13	8	19	10	13	10	20	24	18	14	20	186		186	186					186		
Randolph	16	26	16	10	10	29	19	19	26	23	23	33	243	2	249	250	1				250		
Rapley	8	14	5	15	10	11	6	8	7	12	14	18	128		128	128	2		2		128		
Rush	12	9	6	11	5	14	10	11	16	18	6	20	137	1	138	138					138		
Scott	5	9	2	5	6	6	1	6	6	10	10	13	79		79	79					79		
Shelby	17	24	14	13	27	12	16	26	20	28	26	19	232	4	236	236					236		
Spencer	18	25	20	29	24	23	16	33	15	24	23	22	261	17	276	277	2	1			278		
Stark	3	7	6	14	6	10	6	6	8	6	6	8	100		86	92	12	8			100		
Steuben	11	10	15	15	6	8	6	7	9	14	16	13	128	2	129	130	1				130		
St. Joseph	36	89	58	62	63	108	99	77	87	93	86	78	931	5	708	754	226	178	2	4	936		
Sullivan	15	18	22	18	28	23	22	27	21	33	20	38	287		280	282	7	6			287		
Switzerland	3	2	6	1	9	5	4	6	5	2	5	5	51	2	53	53					53		
Tipton	24	33	25	34	26	69	29	27	36	45	40	42	414	6	404	414	16	5	1		420		
Union	10	13	15	6	5	15	4	12	12	12	13	21	135		135	135					135		
Vanderburgh	4	3	5	5	2	4	3	3	8	8	9	9	58	2	58	58	2	2			60		
Vermillion	57	70	75	86	94	95	64	122	76	104	81	125	926	92	864	1,004	34	14			1,018		
Vigo	7	6	14	10	12	84	73	114	14	9	8	11	114	3	93	100	21	14	3	3	117		
Wabash	83	84	76	102	87	24	11	10	121	116	116	135	1,150	57	1,124	1,137	83	69			1,207		
Warrick	15	19	19	19	11	24	11	10	23	23	30	34	236	2	236	236			2	2	238		

TABLE F.
Marriages Grouped Ages, for the Year Ending December 31, 1915.

COUNTIES	Under 20		20 to 30		30 to 40		40 to 50		50 to 60		60 to 70		70 to 80		80 and Over		Not Reported		Total
	Grooms	Brides	Grooms	Brides	Grooms	Brides	Grooms	Brides	Grooms	Brides	Grooms	Brides	Grooms	Brides	Grooms	Brides	Grooms	Brides	
Adams.	5	64	140	101	26	15	10	3	6	4	1	1							188
Allen.	11	122	561	551	171	104	57	39	28	18	12	5					2	3	842
Bartholomew.	5	46	151	131	32	21	18	10	8	5	2	5	2						218
Benton.	1	22	63	49	13	7	7			1	1	1						6	85
Blackford.	10	39	93	78	20	12	10	7	7	3	4	7	2	1	1				147
Boone.		55	121	100	52	28	13	12	11	6	4	2	3	1					204
Brown.	4	32	43	21	6	3	2	3	4	1			1						60
Carroll.	12	49	82	61	20	9	5	4	3	2	4	2	1						127
Cass.	10	64	203	184	59	37	25	20	7	3	6	5	2	2	1		1	1	314
Clark.	11	339	662	450	152	87	46	22	28	6	6	4	1				3	1	909
Clay.	7	83	208	164	49	41	30	12	12	6	5	5	3	3					314
Clinton.	6	52	160	140	34	15	10	7	6	3	3	2	1	1					220
Crawford.	17	74	95	53	21	10	8	6	2	2	1	2	1						145
Davies.	13	64	161	124	27	20	12	8	5	2	2	3	1						221
Dearborn.	6	36	125	123	41	16	3	6	7	4	2	2	1	2	1		2	1	188
Decatur.	3	35	109	91	23	16	8	6	5	6	7	3	2						157
DeKalb.	3	38	114	99	32	25	12	7	7	6	6	3	6	3			1		81
Delaware.	38	158	299	228	71	41	27	26	19	13	12	3	3						469
Dubois.	8	30	120	119	32	14	3	3		2	6	1							169
Elkhart.	37	169	369	272	65	53	29	21	21	16	9	2	5					2	535
Fayette.	3	35	91	69	27	19	8	6	1	2			1						131
Floyd.	9	78	161	132	56	25	17	16	8	11	12	3	1			1	1		266
Fountain.	5	48	126	103	32	23	14	6	6	6	3	2	3	1					189
Franklin.	2	21	82	67	13	11	5	3	1	1									103
Fulton.	6	31	105	94	24	16	9	4	2	4	3	1		1					150

Gibson.	4	53	154	133	34	18	18	32	11	8	7	5	2	2	1	1	2	2	2	5	9	2	2	2	2	2	223
Grant.	24	137	336	287	68	64	39	39	16	13	15	13	4	4	1	1	2	4	4	1	9	7	4	4	4	4	497
Greene.	20	136	228	146	43	21	12	9	9	9	13	6	4	3	2	1	1	6	6	4	6	4	3	3	3	3	322
Hamilton.	11	60	143	125	43	27	18	11	10	10	4	5	1	2	2	2	2	8	8	5	5	2	2	2	2	2	232
Hancock.	18	51	118	97	25	17	10	9	4	4	5	5	2	2	2	2	1	6	5	5	2	2	2	2	2	2	182
Harrison.	5	49	90	56	20	13	7	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	124
Hendricks.	5	27	76	72	26	13	9	5	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	119
Henry.	21	110	202	144	53	34	25	22	7	4	8	8	4	4	4	4	4	2	2	4	8	4	2	2	2	2	318
Howard.	23	117	235	173	63	41	23	22	11	7	7	6	5	5	1	1	1	2	2	5	8	5	1	1	1	1	396
Huntington.	13	78	200	154	30	20	15	11	11	11	7	6	5	2	2	2	2	2	1	6	6	5	1	1	1	1	275
Jackson.	5	55	129	93	28	17	8	8	8	5	5	2	2	3	3	3	3	3	2	2	2	2	3	3	3	3	180
Jasper.	4	33	103	77	14	16	8	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	131
Jay.	2	47	129	104	28	12	8	2	1	1	2	4	4	4	4	4	4	2	2	4	4	4	2	2	2	2	168
Jefferson.	13	78	137	100	33	23	18	7	9	9	4	4	4	4	4	4	4	2	2	4	4	4	2	2	2	2	216
Jennings.	7	36	81	58	11	8	8	4	2	2	5	4	4	4	4	4	2	2	2	5	4	4	2	2	2	2	113
Johnson.	8	30	91	83	23	16	10	7	6	5	5	2	2	3	3	3	3	3	1	2	2	1	1	1	1	1	141
Knox.	45	184	315	201	60	37	34	26	16	24	12	8	8	4	4	4	6	1	24	12	8	1	1	1	1	1	480
Kosciusko.	11	47	148	120	37	22	11	14	11	4	4	4	4	4	4	4	4	3	1	4	4	3	1	1	1	1	223
Lagrange.	7	36	92	71	12	8	6	5	3	2	3	2	3	3	2	2	2	3	2	3	3	2	3	3	3	3	126
Lafayette.	15	578	1,990	1,790	790	502	256	151	93	40	23	7	4	4	4	4	1	23	40	23	7	4	4	4	4	4	3,077
Laporte.	17	139	318	261	85	50	29	13	21	7	2	3	3	3	3	3	3	3	2	2	2	3	3	3	3	3	473
Lawrence.	31	123	157	96	39	17	17	22	14	6	8	4	4	4	4	4	4	8	16	8	4	4	2	2	2	2	269
Madison.	60	221	379	273	112	77	37	29	18	16	13	4	4	4	4	4	4	13	18	13	4	4	2	2	2	2	633
Marion.	361	537	1,210	985	1,017	473	334	290	290	170	67	49	16	13	3	3	3	67	290	170	67	49	16	13	3	25	3,351
Marshall.	6	71	181	126	19	16	11	9	7	3	1	1	1	1	1	1	1	3	7	3	1	1	1	1	1	1	225
Martin.	9	41	69	46	12	10	8	7	5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	106
Miami.	15	82	200	165	49	29	15	7	8	5	5	3	3	3	3	3	3	5	2	5	3	2	2	2	2	2	294
Monroe.	18	73	152	123	32	19	9	4	16	13	2	2	1	1	1	1	4	9	13	2	2	3	1	1	1	4	237
Montgomery.	5	60	157	120	29	15	13	8	5	7	9	4	4	4	4	4	4	5	7	9	4	4	2	2	2	2	211
Morgan.	11	83	126	77	33	18	16	9	6	9	4	4	1	1	1	1	1	4	9	4	4	1	1	1	1	1	197
Newton.	4	24	45	34	11	6	7	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	67
Noble.	13	68	135	101	31	11	11	5	4	4	5	3	3	3	3	3	3	5	4	5	3	1	1	1	1	1	192
Ohio.	9	28	23	7	7	3	1	2	1	2	2	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	38
Orange.	7	62	114	80	26	15	11	6	6	6	4	5	4	4	4	4	4	6	4	5	4	2	2	2	2	2	171
Owen.	7	28	69	63	25	9	3	3	6	6	1	1	1	1	1	1	1	6	6	6	1	3	3	3	3	3	115
Park.	12	46	87	68	19	13	10	4	5	5	6	3	3	3	3	3	3	6	5	6	3	3	3	3	3	3	139
Perry.	5	57	109	80	29	14	7	6	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	2	161
Pike.	10	63	105	58	12	14	8	3	5	3	3	2	2	2	2	2	2	3	3	3	2	2	2	2	2	2	142
Porter.	3	52	166	159	70	52	31	15	9	1	2	2	2	2	2	2	2	3	1	2	2	2	2	2	2	2	285
Posey.	5	80	189	143	40	28	13	7	11	5	5	3	3	3	3	3	3	5	5	5	3	3	3	3	3	3	264

TABLE F—Continued.

COUNTIES	Under 20		20 to 30		30 to 40		40 to 50		50 to 60		60 to 70		70 to 80		80 and Over		Not Reported		Total
	Grooms	Brides	Grooms	Brides	Grooms	Brides	Grooms	Brides	Grooms	Brides	Grooms	Brides	Grooms	Brides	Grooms	Brides	Grooms	Brides	
Pulaski.....	2	39	90	57	16	13	4	4	2	2	1	1	3	1	1	1	1	1	115
Putnam.....	17	65	116	89	26	19	13	8	9	3	1	1	1	1	1	1	1	1	186
Randolph.....	18	72	176	134	27	25	13	9	7	4	8	5	1	1	1	1	1	1	250
Ripley.....	1	38	88	65	24	11	2	8	7	4	4	4	1	1	1	1	1	1	128
Rush.....	6	42	98	69	16	14	8	10	7	1	2	1	1	1	1	1	1	1	138
Scott.....	6	21	45	36	12	9	3	3	6	7	4	2	3	3	1	1	1	1	79
Shelby.....	5	68	159	134	38	22	17	15	10	3	3	4	4	4	1	1	1	1	226
Spencer.....	13	124	217	133	33	10	14	7	3	3	1	1	1	1	1	1	1	1	278
Stark.....	1	30	59	44	17	16	15	4	6	4	2	1	1	1	1	1	1	1	100
Steuben.....	1	29	91	77	11	7	13	8	8	6	4	3	1	1	1	1	1	1	130
St. Joseph.....	11	174	655	592	163	106	59	37	26	17	12	9	9	2	1	1	1	1	936
Sullivan.....	10	105	203	137	38	23	23	13	8	6	3	2	2	2	1	1	1	1	267
Switzerland.....	11	34	27	9	6	6	3	4	5	3	2	2	3	3	1	1	1	1	53
Tipton.....	7	108	285	230	71	46	32	22	14	7	4	4	6	1	1	1	1	1	420
Union.....	1	15	39	35	15	7	3	1	1	2	2	2	3	3	1	1	1	1	60
Vanderburgh.....	12	208	720	640	178	114	66	37	30	13	9	4	3	1	1	1	1	1	1,018
Vermillion.....	2	48	77	58	28	7	6	3	2	3	3	1	1	1	1	1	1	1	117
Vigo.....	87	405	748	578	233	137	72	52	42	25	17	9	6	1	1	1	1	1	1,207
Wabash.....	8	49	162	145	42	26	8	6	7	6	6	3	4	4	1	1	1	1	238
Warren.....	12	37	46	35	13	10	11	1	2	1	1	1	1	1	1	1	1	1	85
Warrick.....	4	43	125	103	30	17	2	5	6	6	8	6	2	1	3	1	1	1	182
Washington.....	16	58	93	64	17	9	7	3	6	3	2	2	1	1	1	1	1	1	142
Wayne.....	12	72	243	213	59	50	28	19	17	13	6	3	3	1	1	1	1	1	370
Wells.....	3	39	118	100	27	16	11	9	6	6	5	2	3	1	1	1	1	1	178
White.....	13	41	123	104	13	10	9	7	5	2	2	1	1	1	1	1	1	1	166
Whitley.....	9	48	131	106	24	11	9	9	3	4	1	1	3	1	1	1	1	1	181
Total.....	1,375	7,675	18,315	15,081	5,410	3,775	2,109	1,422	1,088	716	469	260	174	47	13	3	72	96	29,025



INDIANA STATE BOARD OF HEALTH

TENTH ANNUAL REPORT

of the

**Bacteriological and Pathological
Division**

of the

Laboratory of Hygiene

for the

YEAR ENDING SEPTEMBER 30, 1915.

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INTRODUCTION.

After three years of delay the Bacteriological Laboratory has adequate quarters. The first room assigned to the laboratory was entirely inadequate when the antirabic treatments were begun and space outside the State House had to be used. The antirabic treatments are given by the laboratory staff. This necessitated considerable running back and forth between the two laboratories and much time was lost. In the middle of June the two laboratories were united on the second floor of the Gallup Block at the corner of Market and Capital Ave., opposite the east entrance of the State House. The Gallup Block is admirably located for laboratory purposes, as it fronts on Market and Capital and has alley ways to the south and east, giving the building almost perfect ventilation and light from all sides.

There are three rooms for microscopical work along the north end of the building. The north end of the large corridor is used as a waiting room for the rabies patients. This waiting room opens into the general office used by the two stenographers, and into the room in which the antirabic treatments are given. One large room on the east side of the building is used for making up mailing outfits and another as a store room.

The present arrangement of rooms is almost ideal for a laboratory and will help in arranging permanent quarters for the laboratory in the new State building that must soon be built to make room for the additional State departments being created from time to time.

Although a number of laboratories both private and public are being established all over the State our work has continued to increase.

Almost 21,000 specimens have been examined and many of these were examined two or three times so that the amount of work done is much greater than these numbers would indicate.

There has been a steady demand for typhoid vaccine from all parts of the State in spite of the cheapness of the commercial product.

Two hundred and thirty-nine persons have received the Pasteur treatment and we have not had a single death to record. Two varieties of vaccine have been used, one prepared according to the old Pasteur dessication, the other according to Dr. D. L. Harris' method. No difference can be noted between the two kinds of virus.

In December we began the use of Loeffler's blood serum containing Potassium tellurate. In the diagnostic cultures both the old and the new kind of blood serum were used. The potassium tellurate medium gives 2 per cent more positive than the ordinary Loeffler's blood serum and the combination of the two medias gives almost 4 per cent more positives than the old medium used alone. All of the blood serum media used have been made in the laboratory using copper slanting racks, coagulating and sterilizing in the autoclave. By this method it is comparatively easy to make 1,500 tubes in one day.

There has always been considerable difficulty in getting physicians to use the outfits furnished by the laboratory. In some instances in the past this was no doubt due to the difficulty of obtaining outfits. At present the outfits are so standardized and their assembling so well systematized that any demand for outfits can be met.

In order to make this report as valuable as possible each kind of specimen has been arranged according to counties from which they came, to monthly positives and negatives for 1915, and the nine previous years of the laboratory and to the percentage positive for all previous years of the laboratory. This method of tabulating the work done gives information as to the geographical source of the specimens, their character and a comparison of the results of this year's work with that of previous years.

The sputum, diphtheria, typhoid, pus, blood, rabies and pathological specimens have been arranged in this manner in the present report.

Detailed information is given concerning persons receiving the Pasteur antirabic treatment as to county, town, name, age, sex, kind and location of bites, kind of animals that did the biting, the virus used for treatment and the result of the treatment in each case. The clinical history sheets in the cases contain information concerning any complication that came up. These clinical sheets are numbered in the order in which the patient came to the laboratory for treatment and are substantially bound. These volumes are an authentic and valuable record of the rabies situation in Indiana and will no doubt some day be a valuable source of information on hydrophobia in Indiana.

The remainder of the report is made up of special contributions by the members of the laboratory staff.

Table 1 summarizes the work of the laboratory for the last ten years.

Each year shows some increase in the number and kind of examinations made. Beginning with an average of seven specimens examined per day in 1906, the work has increased to an average of

66 per day in 1915. That is to say that the laboratory is doing almost ten times as much work per day as in the first year. During the first year only examinations of sputum for tubercle bacilli, swabs for diphtheria bacilli and blood for Widal's were made.

Now in addition to these, blood is examined for malaria for leukemia or anaemia, blood counts are made, pus is examined for gonococci, urine and feces examined for typhoid bacilli, hookworm and other parasites, pathological tissues examined for malignancy and brains for rabies.

TABLE 1.
Summarizing Routine Examinations for Ten Years.
1908-1915.

Year.	Sputum.	Diphtheria.	Typhoid.	Malaria.	Pathological Tissues.	Rabies.	Gonococci.	Miscellaneous.	Total.	Average per day.
1906.	1,503	171	499	45	.....	.....	.....	66	2,239	7
1907.	2,116	633	802	167	.....	.....	.....	385	3,991	12
1908.	3,136	2,779	1,270	194	165	52	178	310	8,087	26
1909.	3,458	1,445	1,508	189	187	144	349	666	7,951	25
1910.	3,583	1,638	1,404	208	309	134	430	1,099	8,786	28
1911.	4,228	2,452	2,038	203	415	243	534	1,029	11,142	35
1912.	4,698	9,377	1,850	200	714	314	587	548	18,276	58
1913.	4,784	15,762	2,264	155	435	328	542	803	25,372	81
1914.	4,947	11,064	2,751	139	365	311	691	1,024	21,292	70
1915.	4,930	3,772	1,583	146	430	300	767	8,788	20,716	66

TABLE 2.

*Showing Number, Kind and Result of Specimens Examined.**October 1, 1914–October 1, 1915.*

Kind of Examination.	Result of Examination.		
	Positive.	Negative.	Total.
Sputum for tubercle bacilli.....	1,190	3,740	4,930
Blood for Widal reaction.....	279	1,304	1,583
Blood for Widal paratyphoid.....	8	764	772
Blood for malaria.....	6	140	146
Blood for counts.....			138
Throat cultures for diphtheria bacilli.....	885	2,887	3,772
Epidemic diphtherias.....	165	6,972	7,137
Pus for gonococci.....	258	509	767
Pathological tissues.....			430
Brains for rabies.....	201	99	300
Fluids, miscellaneous.....	15	46	61
Feces, miscellaneous.....	7	96	103
Pus, miscellaneous.....	4	67	71
Urine for tubercle bacilli.....	3	49	52
Urine, miscellaneous.....	1	401	402
Miscellaneous specimens.....	4	48	52
Total.....			20,716

TABLE 3.

Showing Kind of Specimens Examined Per Month and Results.

October 1, 1914-October 1, 1915.

Classification.	Jan.		Feb.		March.		April.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		Total.
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	
Sputum.....	57	320	81	397	95	472	99	371	118	315	140	283	118	249	129	237	144	288	74	298	76	246	59	254	4,980
Diphtheria.....	77	263	64	204	90	262	28	134	23	74	21	94	23	85	27	78	85	186	192	722	162	498	126	317	3,772
Widal.....	17	62	11	80	14	80	12	74	14	78	3	76	13	136	30	192	32	184	61	166	52	123	18	83	1,583
Gonococci.....	24	48	26	40	12	35	22	34	17	39	24	48	18	41	24	43	12	53	38	41	16	48	25	39	1,767
Brains.....	16	7	23	5	17	10	17	9	15	10	21	15	24	11	17	7	12	11	11	4	12	4	16	6	300
Pathological tissues.....		19		29		47		24		34		36		34		58		49		31		40		29	430
Urine.....	1	33		38		58		32		34		34		30		35		32		24		27		24	402
Feces, miscel- laneous.....	12			4	1	7		12		3	1	8		3	1	14		10		7	3	5	1	11	108
Pus, miscellan- eous.....		4		4		6		7		11	1	1		4	1	6	1	10	1	5		6		3	71
Urine for tuber- culosis.....	1		1	3		7		4		7		2		4	2	3		2		7		4		5	52
Paratyphoid.....		4		3		8		11		15		10		72	1	221		216	7	220		19		2	772
Blood counts.....		10		15		8		11		8		8		14		15		12		14		4		10	188
Malaria.....		5		5		5		8		1		5		15	3	26	1	16	1	16		13		1	146
Spinal fluid.....	2	5	3	6	8	3		9		1		1		8		1		4		6		1	1	2	61
Diphtheria epi- demic.....	9	961	8	1,754	3	545	129	1	242	1		115							130	2,702	9	322	5	202	7,187
Miscellaneous.....		4		1		6		2		2		3		3	4		6		1	3		3		14	52
Totals.....	204	1,758	216	2,591	240	1,522	175	860	189	878	212	746	198	709	239	942	257	1,044	515	4,266	330	1,363	251	1,011	20,716

Table 5 shows the total number of specimens examined each month during 1915.

The average per month during the whole year is 1,725. In June and July the work was the lightest and it was heaviest in October. There is not a great deal of difference in the number of sputum specimens examined from month to month.

Widal specimens are most numerous during July, August and September.

Diphtheria specimens are most numerous during the months of October, November and December.

TABLE 4.

Total Amount of Work Done by the Laboratory.

October 1, 1914–October 1, 1915.

Month.	Specimens.	Typhoid Vaccine.	Outfits.	Patients treated.	Guinea Pigs.
October.....	4,781	335	3,179	6	0
November.....	1,693	326	1,661	27	1
December.....	1,262	251	2,373	10	3
January.....	1,962	244	1,145	12	0
February.....	2,807	63	2,850	11	25
March.....	1,762	156	1,119	21	0
April.....	1,035	169	1,155	19	5
May.....	1,067	153	1,052	25	6
June.....	958	395	2,979	31	7
July.....	907	590	958	24	3
August.....	1,181	583	1,171	35	10
September.....	1,301	869	1,452	16	4
Totals.....	20,716	4,134	21,094	239	64

TABLE 5.

*Showing Number of Examinations Each Month.
October 1, 1914–October 1, 1915.*

<i>Month.</i>	<i>Number of Specimens.</i>
October.....	4,781
November.....	1,693
December.....	1,262
January.....	1,962
February.....	2,807
March.....	1,762
April.....	1,035
May.....	1,067
June.....	958
July.....	907
August.....	1,181
September.....	1,301
Total.....	20,716

TUBERCULOSIS.

Four thousand nine hundred and thirty specimens of sputum were examined for tubercle bacilli and 1,190 or 24 per cent of these specimens contained tubercle bacilli. It is remarkable how uniform are the number of sputum specimens examined from year to year. In 1914 there were 4,947 sputum specimens examined and of these 1,255 were found to contain tubercle bacilli.

The following method is used in examining sputum specimens: Antiformin is added to the sputum in the proportion of three parts sputum to one part antiformin. This mixture is then shaken on a Rickard sputum shaker for five minutes after which it is poured into 50 c.c. centrifuge tubes, 30 c.c. of water added and then centrifugated at 3,000 revolutions per minute for ten minutes. The supernatant fluid is poured off by turning the tube upside down very quickly. The residue in the tube is then smeared on a large glass slide which has been previously smeared with Meyer's albumin. This slide is then stained with carbolfuchsin and decolorized with a 20 per cent solution of hydrochloric acid in 95 per cent Ethyl alcohol and then counterstained twice with Loeffler's Alkaline Methylene blue.

There has been some criticism of the method of examining sputum: viz. that we fail to find tubercle bacilli in positive specimens. There are acid-fast bacilli in air and food stuffs that closely resemble tubercle

bacilli and which ordinary Gabbet's blue will not decolorize but acid alcohol will. Antiformin will not destroy tubercle bacilli under any circumstances but it does seem to destroy some of the other acid-fast organisms. It is possible that the ordinary method of sputum examination may give too many positives.

The following is the method used for making up antiformin:

Sodium carbonate.....	15 grams.
Chloride of lime.....	10 grams.
Sodium hydroxide.....	15 grams.
Water.....	100 c.c.

(a) Dissolve 15 Grams of sodium carbonate in 25 c.c. of water.

(b) Add 10 Grams of chloride of lime to 25 c.c. of water.

(c) Dissolve 15 Grams of sodium hydroxide in 50 c.c. of water.

(d) Add equal parts of supernatant fluid (a and b) to "c." Only the best chemicals should be used.

We have found that if 30 Grams instead of 15 Grams of sodium hydroxide are used the finished product can be diluted one half and the results will be just as good as if the full strength solution had been used.

The stock solution should be put into brown bottles and stored in the ice box.

We have been able to make antiformin with a drug cost of only about 10 cents per pint. The market price for the proprietary is 50 cents.

Recently we have adopted a routine method for examining our sputum smears. The individual smears are made on the slide and are 1 centimeter wide and 5 centimeters long. The microscopic stage is moved 2 millimeters each time the microscope travels from one end of the smear to the other. This means that each smear is examined from one end to the other ten times. This method will under ordinary circumstances give 30 per cent positives and 70 per cent negatives. Of the negatives not less than 10 per cent will contain particles retaining the carbol fuchsin stain. One per cent of these substances will resemble tubercle bacilli to some extent so that one who is not accustomed to seeing tubercle bacilli might call them positive.

This simply proves the contention of experienced consultants that acid-fast bacilli in the sputum without clinical symptoms does not always mean tuberculosis. In these uncertain cases another specimen is requested for examination.

Many physicians want to know all of the varieties of bacteria in the sputum. Bacteriologists have contended that these findings were of little value because most of the sputum organisms were mouth

bacteria. The recent discovery that pneumococci ordinarily found in the mouth are not virulent seems to point more than ever to the lack of value of ordinary sputum bacterial findings.

TABLE 6.

Showing the Number of Specimens of Sputum Received From Each County.

October 1, 1914–October 1, 1915.

County.	Posi- tive.	Nega- tive.	Total.	County.	Posi- tive.	Nega- tive.	Total
Adams	6	17	23	Lawrence	19	50	69
Allen	53	28	81	Madison	33	110	143
Bartholomew	13	25	38	Marion	216	820	1,036
Benton	1	12	13	Marshall	6	45	51
Blackford	2	25	27	Martin	5	9	14
Boone	11	34	45	Miami	17	67	84
Brown				Monroe	8	43	51
Carroll	6	19	25	Montgomery	14	49	63
Cass	20	60	80	Morgan	10	22	32
Clark	2	22	24	Newton		2	2
Clay	10	50	60	Noble	12	52	64
Clinton	16	43	59	Ohio		1	1
Crawford	3	11	14	Orange	7	12	19
Daviess	16	23	39	Owen	6	20	26
Dearborn	17	27	44	Parke	3	17	20
Decatur	10	32	42	Perry	5	9	14
DeKalb	6	20	26	Pike	4	14	18
Delaware	22	57	79	Porter	3	8	11
Dubois	4	22	26	Posey	7	19	26
Elkhart	13	66	79	Pulaski	12	14	26
Fayette	11	39	50	Putnam	6	18	24
Floyd	24	75	99	Randolph	7	37	44
Fountain	8	25	33	Ripley	9	12	21
Franklin	7	15	22	Rush	16	65	81
Fulton	7	31	38	Scott	4	17	21
Gibson	10	36	46	Shelby	15	39	54
Grant	31	112	143	Spencer	9	17	26
Greene	19	40	59	Starke	15	11	26
Hamilton	19	64	83	Steuben	3	11	14
Hancock	5	26	31	St. Joseph	10	66	76
Harrison	3	15	18	Sullivan	7	24	31
Hendricks	8	30	38	Switzerland	2	1	3
Henry	14	48	62	Tippecanoe	24	48	72
Howard	15	74	89	Tipton	10	27	37
Huntington	17	46	63	Union	1	10	11
Jackson	5	22	27	Vanderburg	38	81	119
Jasper	2	6	8	Vermillion	19	30	49
Jay	14	41	55	Vigo	24	64	88
Jefferson	7	23	30	Wabash	19	72	91
Jennings	6	9	15	Warren	3	9	12
Johnson	15	44	59	Warrick	7	8	15
Knox	8	47	55	Washington	5	5	10
Kosciusko	6	32	38	Wayne	22	81	103
LaGrange	4	23	27	Wells	5	22	27
Lake	7	13	20	White	9	14	23
LaPorte	3	10	13	Whitley	8	29	37
Totals	506	1,539	2,045	Totals	684	2,201	2,885

TABLE 7.

Showing Number of Sputum Specimens Examined for Tubercle Bacilli Each Month and Results.

October 1, 1914–October 1, 1915.

Month.	Positive.	Negative.	Total.
October.....	74	298	372
November.....	76	246	322
December.....	59	254	313
January.....	57	320	377
February.....	81	397	478
March.....	95	472	567
April.....	99	371	470
May.....	118	315	433
June.....	140	293	433
July.....	118	249	367
August.....	129	237	366
September.....	144	288	432
Totals.....	1,190	3,740	4,930

TABLE 8.

*Showing Total Number of Sputum Specimens Examined Per Month.
1908–1915.*

Month.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	Average per Month.
October.....	252	295	312	336	383	364	372	.....	330
November.....	222	290	353	318	357	337	322	.....	314
December.....	275	261	383	352	401	346	313	.....	333
January.....	246	276	273	437	381	444	410	377	355
February.....	208	268	329	435	371	407	392	478	361
March.....	292	374	458	368	459	367	490	567	422
April.....	292	315	351	354	462	430	513	470	398
May.....	308	291	363	391	496	442	474	433	393
June.....	308	297	363	378	415	412	556	433	395
July.....	321	302	383	255	407	375	427	367	355
August.....	264	270	325	274	365	390	412	366	333
September.....	284	273	271	288	326	276	326	432	309
Totals...	3,272	3,512	4,164	4,186	4,823	4,590	5,007	3,923	
Average per month per year	273	293	347	349	402	383	417	436	

TABLE 9.

*Showing Specimens of Sputum Examined and Found Positive Each Month.
1908-1915.*

Month.	1908.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	Average per Month.
October.....		70		87	66	114	97	102	74	74	86
November.....	60	59	66	81	71	86	87	71	76	76	73
December.....		46	72	78	77	68	78	84	59	59	69
January.....			62	92	70	82	97	95	78	57	79
February.....		71	60	56	82	73	76	89	88	81	75
March.....	51		83	74	107	87	92	61	108	95	84
April.....	83	54	77	74	111	99	93	93	99	99	88
May.....			87	72	113	121	122	80	118	118	104
June.....		100	82	73	102	122	114	102	146	140	109
July.....	87	80	108	100	93	124	113	110	138	118	107
August.....	51	75	80	71	116	155	100	102	96	129	97
September.....		76	82	77	96	133	80	102	91	144	98
Totals..	331	631	859	937	1,204	1,264	1,149	1,091	1,171	1,190	
Average per month per year.....	28	52	72	78	100	105	96	91	98	99	

TABLE 10.

*Showing Percentage of Positive Sputums Per Month.
1908-1915.*

Month.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	Average per cent.
October.....	29	29	26	34	25	28	20	.....	27
November.....	30	28	21	27	21	21	24	.....	25
December.....	26	30	23	15	19	23	15	.....	21
January.....	25	33	26	23	25	21	19	15	23
February.....	29	21	25	28	21	21	22	17	23
March.....	28	20	23	30	20	19	22	17	22
April.....	26	23	32	35	20	21	26	21	26
May.....	28	25	30	40	25	15	25	27	27
June.....	27	25	31	35	27	24	26	32	29
July.....	34	33	33	26	28	29	32	32	30
August.....	30	26	35	26	27	27	23	35	29
September.....	29	28	35	27	24	27	28	33	29
Average per cent per year.....	31	27	28	29	23	23	24	25	

TABLE 11.

*Showing Percentage of Sputum Specimens Positive Per Year.
1908-1915.*

<i>Years.</i>	<i>Percentage Positive.</i>
1908.....	31
1909.....	27
1910.....	28
1911.....	29
1912.....	23
1913.....	23
1914.....	24
1915.....	25

TABLE 12.

*Showing Average Percentage Monthly Positive Sputums.
1908-1915.*

<i>Month.</i>	<i>Percentage Positive.</i>
October.....	27
November.....	25
December.....	21
January.....	23
February.....	23
March.....	22
April.....	26
May.....	27
June.....	29
July.....	30
August.....	29
September.....	29

Table 13 shows some rather remarkable things: First, the winter and spring months show the lowest number of sputums positive and also the lowest percentage of positives. The month of March gives the greatest number of deaths from pulmonary tuberculosis while June and July, the months that are near the bottom for tuberculosis deaths, give the highest number of positive sputums.

TABLE 13.

*Showing Average Monthly Percent of Sputums Found Positive, Average Number Sputums Found Positive Per Month, and Average Total of Sputum Specimens Examined.
1908-1915.*

Month.	Average per cent. Positive.	Average number Positive.	Average Total Examined.
October.....	27	86	330
November.....	25	73	314
December.....	21	69	333
January.....	23	79	355
February.....	23	75	361
March.....	22	84	422
April.....	26	88	398
May.....	27	104	393
June.....	29	109	395
July.....	30	107	355
August.....	29	97	333
September.....	29	98	309

DIPHTHERIA.

There is no disease so easy to control by laboratory methods as diphtheria. Every year beginning with the middle of September there is a great increase of diphtheria specimens sent to the laboratory. A large part of them come from school children and are often the first cases in a severe epidemic.

It has been estimated that 42 per cent of all cases of diphtheria are diagnosed by the laboratory. Less than 20 per cent are released on a negative release culture from the laboratory. It is likely that these estimations are too high rather than too low.

It is very gratifying to know that so many school authorities are taking advantage of the laboratory facilities in school inspection work. However, it is important that many more do so. Those communities at some distance from Indianapolis will find little help for treatment from the laboratory diagnosis, since serum to be of greatest benefit must be given very early in the disease. Distance cuts a very small figure for release cultures.

DIPHTHERIA EPIDEMICS AND DIPHTHERIA CARRIERS.

From the beginning of bacteriological examination of throats it has been found that although diphtheria bacilli were the etiological factors many persons harbor these bacilli without showing any symptoms of the disease. These persons are called bacilli carriers and are the most important single factor in the spread of diphtheria.

The following leaflet of instructions and advice is sent to the local health officer where there are any school children with diphtheria:

INDIANA STATE BOARD OF HEALTH.

DIPHTHERIA EPIDEMICS AND DIPHTHERIA CARRIERS.

Inspection of the throats of school children is at all times important, and in the presence of an epidemic of diphtheria is absolutely necessary. The examination should consist, first of an inspection of the throat and nose for clinical signs of disease, and second, of swabbing the throat to obtain material for making a bacteriological examination to determine if diphtheria bacilli are present. During an epidemic of diphtheria many children have diphtheria bacilli in their throats without showing signs of being sick. These children are called "bacilli carriers," and this fact is an argument for medical inspection of schools.

The Indiana Sanitary School House Law, Section 2, commands medical inspection under certain circumstances in the following words:

"Whenever diphtheria, scarlet fever or any other contagious or infectious disease breaks out in any school it shall be the duty of the township trustee, school board, school trustee, or the school authority or authorities having control, to have medical inspection made of the pupils and all found in any degree ill shall be sent home and retained there until the local health officer gives a certificate of health, then such child may again be admitted to school. * * * Any trustee or school authority who fails or neglects to have medical inspection as provided above is liable to a fine of not less than ten nor more than one hundred dollars, and each said refusal or neglect shall constitute a separate offense."

The rule of the Indiana State Board of Health governing quarantine in diphtheria is as follows:

For the patient, quarantine until the secretions from the nose and throat are free from diphtheria infection as shown by bacteriological examination of such secretions. For children associated with or in the family with the patient, quarantine until death or recovery of the patient and disinfection of person, clothing and

premises: Provided, That other children of the family who shall receive an immunizing dose of antitoxin of not less than 1,000 units may be released from quarantine at the discretion of the health officer having the jurisdiction, after disinfection of person and clothing. The patient shall be excluded from school until a medical certificate that the nose and throat are free from infection, based upon bacteriological examination, is furnished. Children associated with or in the family of the patient shall be excluded from school for seven (7) days after release from quarantine unless a medical certificate of having received an immunizing dose of not less than 1,000 units of antitoxin is furnished. Adult members of the family may be released from quarantine on the condition that they be disinfected in person and apparel and remain away during the quarantine period.

In addition to the rule given above governing quarantine and exclusion from school, the Indiana State Board of Health recommends the following measures for the detection and control of diphtheria carriers during an epidemic of diphtheria in any school.

Measure 1. Whenever there is an outbreak of diphtheria in any school, the throat and nose of every pupil and teacher and any other person in such school should be inspected and mucus taken on a sterile swab for bacteriological examination.

All children found by inspection to have sore throat or slight or severe cold should be sent home immediately and not allowed to return to school until it is proven by bacteriological examination that they do not have diphtheria bacilli in their throats. Every child not having sore throat or cold should remain at school unless bacteriological examination shows them to be diphtheria "bacilli carriers."

Measure 2. If the epidemic is extensive, immunizing doses of not less than 1,000 units of diphtheria antitoxin may be given to all well children and the building disinfected with formaldehyde, according to the rules.

Measure 3. The diphtheria carrier, rather than the premises, should be quarantined. It is not necessary to quarantine members of the family who do not come in direct contact with the carrier. Isolation of the carrier from the rest of the family must be complete, a nurse or attendant being provided. The regular diphtheria quarantine card may be dispensed with, the following card being sufficient:

CARRIER OF DIPHTHERIA HERE, KEEP OUT.

Measure 4. Spray the nose and throat of the diphtheria carrier with an antiseptic such as hydrogen peroxide, 5 per cent solution, Seiler's solution or Doe-Bells solution. These antiseptics may be used as a gargle. The local application to the throat of 5 per cent solution of silver nitrate, tincture of iodine or five per cent solution of guaiacol in glycerine are sometimes necessary in persistent cases.

Measure 5. Schools should not be closed unless the epidemic is wide-spread or the attendance does not justify continuing them, for it makes the detection of mild cases and carriers of diphtheria very difficult. Children should be forbidden to attend church or visit public amusement places. Social gatherings or parties for children should not be permitted.

The bacteriological laboratory of the Indiana State Board of Health is prepared to make bacteriological examination of all swabbings from the noses and throats of children suspected of carrying diphtheria bacilli, and will furnish the necessary outfits, free of charge, upon application.

By following the above recommendations, epidemics of diphtheria may be controlled from the beginning and without interfering with the work of the school.

It is now known that the diphtheria (Klebs Loeffler) bacillus may remain for a considerable time in the noses and throats of persons who have recovered from diphtheria. In some cases the bacilli have been found for five and seven weeks and in one case on record, for twenty-three weeks after the attack. It is also known that diphtheria bacilli may often be found in the throats of persons who do not have and who never have had the disease. This is especially true when diphtheria is prevalent in a community. While the bacilli under such conditions do not produce the disease in the "carrier," when transferred to other persons they may produce diphtheria in a most virulent form. It is certain that diphtheria has been kept alive for months in schools and institutions by means of such "carriers," and it is quite probable that unrecognized carriers with only a "slight sore throat" are the source of more cases of diphtheria than persons having well marked and recognized cases of the disease.

It has been shown by the examination of a large number of cases that when diphtheria is present in a community, from 5 to 10 per cent of the persons in that community are "bacilli carriers." On ac-

count of the greater exposure of children in schools, the premotion of carriers among such children would naturally be higher than among the population in general. The report of the State Laboratory of Hygiene shows 7,137 cultures taken from the throats of school children in schools where one or more cases of diphtheria had occurred. Of this number, 165 were positive proving that at least 2 per cent of the children in these schools were "bacilli carriers."

J. N. HURTY,
Secretary.

We especially advise health officers and school inspectors to read the latter part of this leaflet. The old method of quarantine of carriers only breeds discontent and opposition, so that isolation for the carrier is advisable. It is useless to isolate carriers unless some means are taken to rid the carrier of the bacilli. Health Boards and School Boards should provide medical attention free of charge for all carriers, either as a visiting nurse, health officer, or school inspector. In every family where a carrier is detected all other members of the family should be cultured before excluding from isolation such as is imposed upon the carrier. If in examining the members of the carrier's family other carriers are found and these persons are in school all other children in their room or rooms should also be cultured to detect carriers.

It will take an enormous amount of education to change the view point that persons rather than premises are the source of contagion.

It seems that School Boards are willing to spend large sums of money for bad smelling disinfectants but are willing to spend very little for efficient medical inspection of school children. It has been rather conclusively proven that most contagious diseases of children are due to mild or undetected cases of infectious diseases. Thus we see that "efficient medical inspection of schools" is just as valuable to control other infectious diseases of children as it is to control epidemics of diphtheria.

TABLE 14.

*Showing Number of Throat Cultures Examined by Counties.
October 1, 1914–October 1, 1915.*

County.	Posi- tive.	Nega- tive.	Total.	County.	Posi- tive.	Nega- tive.	Total
Adams.....	15	16	31	Lawrence.....	7	29	36
Allen.....	1	2	3	Madison.....	40	70	110
Bartholomew.....	6	29	35	Marion.....	32	171	203
Benton.....	2	2	4	Marshall.....	22	96	118
Blackford.....	5	5	10	Martin.....	3	6	9
Boone.....	3	2	5	Miami.....	9	39	48
Brown.....				Monroe.....	11	123	134
Carroll.....		3	3	Montgomery.....	5	16	21
Cass.....	27	71	98	Morgan.....	4	7	11
Clark.....	2	6	8	Newton.....	1	5	6
Clay.....	10	17	27	Noble.....	4	12	16
Clinton.....	2	8	10	Ohio.....			
Crawford.....	1	4	5	Orange.....	9	25	34
Davies.....	1	2	3	Owen.....		2	2
Dearborn.....	3	11	14	Parke.....	6	11	17
Decatur.....	15	81	96	Perry.....			
DeKalb.....	1	15	16	Pike.....	9	34	43
Delaware.....	28	60	88	Porter.....	1	4	5
Dubois.....	1	2	3	Posey.....	6	8	14
Elkhart.....	41	104	145	Pulaski.....		5	5
Fayette.....	4	13	17	Putnam.....	3	17	20
Floyd.....	5	25	30	Randolph.....	31	43	74
Fountain.....	2	6	8	Ripley.....	13	17	30
Franklin.....	33	146	179	Rush.....	5	16	21
Fulton.....		1	1	Scott.....		5	5
Gibson.....	2	7	9	Shelby.....	29	89	118
Grant.....	51	337	388	Spencer.....	1	9	10
Greene.....	7	23	30	Starke.....	5	1	6
Hamilton.....	39	163	202	Steuben.....			
Hancock.....	1	12	13	St. Joseph.....	7	31	38
Harrison.....	2	6	8	Sullivan.....	1	6	7
Hendricks.....	5	36	41	Switzerland.....	1	2	3
Henry.....	7	26	33	Tippecanoe.....		8	8
Howard.....	56	133	189	Tipton.....	9	13	22
Huntington.....	1	4	5	Union.....		12	12
Jackson.....	6	13	19	Vanderburg.....	3	8	11
Jasper.....	4	4	8	Vermillion.....		11	11
Jay.....	9	29	38	Vigo.....	67	116	183
Jefferson.....	30	51	81	Wabash.....	8	26	34
Jennings.....	10	28	38	Warren.....		1	1
Johnson.....	27	70	97	Warrick.....		1	1
Knox.....	4	15	19	Washington.....	6	2	8
Kosciusko.....	11	20	31	Wayne.....	27	54	81
Lagrange.....	2	9	11	Wells.....		2	2
Lake.....	19	76	95	White.....		3	3
LaPorte.....	5	33	38	Whitley.....	1	5	6
Totals.....	499	1,726	2,225	Totals.....	386	1,161	1,547

TABLE 15.

*Showing Diphtheria Specimens by Months.**October 1, 1914–October 1, 1915.*

Month.	Regular.			Epidemic.		
	Positive.	Negative.	Total.	Positive.	Negative.	Total.
October.....	192	722	914	130	2,702	2,832
November....	162	498	660	9	322	331
December....	126	317	443	5	202	207
January.....	77	263	340	9	961	970
February....	64	204	268	8	1,764	1,762
March.....	90	262	352	3	545	548
April.....	25	134	159	.....	129	129
May.....	23	74	97	1	242	243
June.....	21	94	115	.....	115	115
July.....	23	85	108	.....	.....	.....
August.....	27	78	105	.....	.....	.....
September...	55	156	211	.....	.....	.....
Totals...	885	2,887	3,772	165	6,972	7,137

TABLE 16.

*Showing Total Number Diphtheria Specimens Examined.**1906–1915.*

Month.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	Average per Month.
October.....	.....	115	965	321	652	2,861	986	987	914	.....	975
November....	150	483	451	421	318	2,650	1,251	1,132	660	.....	836
December....	63	225	156	315	236	1,204	1,035	767	443	.....	494
January.....	.....	59	99	154	151	209	246	847	538	340	295
February....	.....	31	78	113	131	130	237	604	449	268	227
March.....	.....	45	55	57	214	123	192	274	414	352	192
April.....	.....	28	46	22	54	87	171	182	189	159	104
May.....	.....	25	44	40	117	77	207	131	175	97	101
June.....	.....	25	38	19	68	58	97	127	117	115	75
July.....	.....	37	19	16	57	80	94	123	138	108	75
August.....	.....	13	.....	58	38	233	109	165	154	105	97
September...	.....	43	692	98	92	249	389	336	254	211	263
Totals...	213	1,129	2,643	1,634	2,128	7,961	5,014	5,675	4,445	1,755	
Average per month per year.....	106	94	220	136	177	663	418	473	370	195	

TABLE 17.

Diphtheria Specimens Found Positive.
1906-1915.

Month.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	Average per Month.
October.....		80	451	83	175	773	309	400	192	.....	308
November....	70	267	125	122	120	520	406	499	162	.....	255
December....	30	107	38	95	91	169	332	228	126	.....	184
January.....		18	28	31	32	67	37	159	177	.....	71
February.....		7	45	27	26	38	31	198	183	.....	68
March.....		20	17	15	41	36	17	79	91	.....	46
April.....		11	14	14	3	32	29	29	42	.....	25
May.....		13	22	8	40	25	24	29	68	.....	27
June.....		27	7	2	15	24	17	45	56	.....	23
July.....		15	24	5	23	13	13	47	23	.....	21
August.....		8	.....	29	18	57	15	42	64	.....	27
September....		38	128	49	35	128	126	156	132	.....	93
Totals....	100	611	899	481	619	1,867	1,356	1,921	1,309	405	
Average per month per year.....	50	51	75	40	52	156	113	160	109	45	

TABLE 18.

Showing Percentage Positive of Diphtherias.
1906-1915.

Month.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	Average per Month.
October.....		70	46	25	26	27	31	40	21	.....	36
November....	46	55	27	28	37	20	32	44	25	.....	35
December....	50	50	24	30	34	13	30	30	28	.....	32
January.....		30	30	20	34	30	15	11	33	.....	25
February.....		22	57	23	20	25	13	30	41	.....	29
March.....		44	39	22	20	30	9	30	22	.....	27
April.....		40	30	63	5	36	16	16	22	.....	27
May.....		50	50	20	34	33	11	22	35	.....	31
June.....		60	63	26	33	22	13	37	20	.....	32
July.....		74	43	12	26	30	18	36	40	.....	33
August.....		63	.....	50	47	24	13	25	42	.....	32
September....		88	18	50	38	50	32	46	52	.....	44
Average per cent. posi- tive per year.....	48	54	36	30	30	28	19	31	32	22	

TABLE 19.

*Showing Average Percent of Diphtherias Positive.**1906-1915.*

<i>Month.</i>	<i>Average Percent Positive.</i>
October.....	36
November.....	35
December.....	32
January.....	25
February.....	29
March.....	27
April.....	27
May.....	31
June.....	32
July.....	33
August.....	32
September.....	44

TABLE 20.

Showing Percentage of Diphtherias Positive by Years.

Year.	Regular.	Epidemic.
	Percentage Positive.	Percentage Positive.
1906.....	48	..
1907.....	54	..
1908.....	36	..
1909.....	30	..
1910.....	30	..
1911.....	28	..
1912.....	19	..
1913.....	31	11
1914.....	32	9
1915.....	22	2

TYPHOID FEVER.

Table 21 shows the positive and negative specimens of blood examined for typhoid each month. The remarkable feature is that although August has the largest number of specimens examined, table 24 shows that September has the largest percentage positive while June has the lowest percentage. The percentage positive for 1915 is about the same as that for 1913, and is very much lower than that for 1914. The standard of examination is the same as that used during the previous six years, that is Wilson's. "All bacilli must be completely immobilized and practically all of them drawn from the edges and collected in a large clump." This rigid standard will eliminate all pseudo-reaction but will also miss some real cases of typhoid.

As a matter of experience it has been found that complete immobility and partial agglutination can be called positive if the clinical symptoms are those of typhoid.

We are still receiving a few criticisms as to our outfits for Widal test blood. These are getting fewer and fewer as physicians learn better how to use them.

With the report on every positive Widal specimen we are sending out this card.

INDIANA STATE BOARD OF HEALTH.

Division of Pathology and Bacteriology.
Room 202, Gallup Block.

Day.....Month.....1915.
 Patient's name.....
 Occupation.....
 Exact address.....
 Date of earliest symptoms.....
 Milk used by patient.....
 Name of dairy.....
 Water used by patient.....Well.....City.

Have there been any previous cases of typhoid, influenza, gastric catarrh, gastritis, diarrhoea or neurasthenia in the patient's family within the past year or two?.....

Has the patient been away from home within the last fifteen days?.....

If so, where?.....

How do you think your patient was infected with typhoid fever?.....

.....

Physician's name.....

Address.....

City.....Town.....

(Enclosed you will find stamped envelope for returning this information.)

At first many of the reports gave well water or milk as the source of the infection. Further inquiry usually shows that the doctor had no data other than his own private opinion.

In a few instances the person sick was in a dairyman's family. Usually the case had not been reported to the local health officer and nothing had been done to prevent the spread of the infection through the milk. These cases were immediately reported to the local health officer and he was requested to make immediate investigation.

A great many cases were contact cases occurring in the same family. In one instance there was an appeal made to the State Board of Health after five members of a family were sick by contact infection.

The replies in some instances mention other previous cases so that an epidemic of typhoid came to our notice in this way.

This follow up work has made the doctor investigate before making a careless reply that this or that was the source of the infection.

TABLE 21.

Showing Number of Blood Specimens From Each County Examined for Widal Reaction.

October 1, 1914–October 1, 1915.

County.	Posi- tive.	Nega- tive.	Total.	County.	Posi- tive.	Nega- tive.	Total
Adams.....		3	3	Lawrence.....	9	32	41
Allen.....	1	8	9	Madison.....	2	37	39
Bartholomew.....	1	10	11	Marion.....	44	189	233
Benton.....	2	14	16	Marshall.....		14	14
Blackford.....	2	4	6	Martin.....		1	1
Boone.....	2	16	18	Miami.....	1	18	19
Brown.....				Monroe.....	3	19	22
Carroll.....	1	12	13	Montgomery.....	1	11	12
Cass.....	29	62	91	Morgan.....	1	3	4
Clark.....	1	6	7	Newton.....	4	7	11
Clay.....		8	8	Noble.....	1	7	8
Clinton.....	1	12	13	Ohio.....			
Crawford.....				Orange.....	1	20	21
Davess.....	1	3	4	Owen.....	2	7	9
Dearborn.....		7	7	Parke.....	1	6	7
Decatur.....	3	12	15	Perry.....	2	5	7
DeKalb.....	1	7	8	Pike.....		7	7
Delaware.....	4	23	27	Porter.....		11	11
Dubois.....		2	2	Posey.....		12	12
Elkhart.....	8	10	18	Pulaski.....	5		5
Fayette.....	2	17	19	Putnam.....		6	6
Floyd.....	1	8	9	Randolph.....	4	16	20
Fountain.....		5	5	Ripley.....	1	6	7
Franklin.....		2	2	Rush.....	5	16	21
Fulton.....	1	10	11	Scott.....			
Gibson.....	1	9	10	Shelby.....	1	9	10
Grant.....	4	16	20	Spencer.....	7	16	23
Greene.....	1	4	5	Starke.....		6	6
Hamilton.....	5	30	35	Steuben.....	2	9	11
Hancock.....		3	3	St. Joseph.....	4	15	19
Harrison.....	2	7	9	Sullivan.....	5	1	6
Hendricks.....		15	15	Switzerland.....		4	4
Henry.....	8	28	36	Tippecanoe.....	12	45	57
Howard.....	4	20	24	Tipton.....	1	7	8
Huntington.....		11	11	Union.....		4	4
Jackson.....		1	1	Vanderburg.....	10	58	68
Jasper.....		2	2	Vermillion.....	3	13	16
Jay.....	3	14	17	Vigo.....	5	17	22
Jefferson.....	7	22	29	Wabash.....	6	16	22
Jennings.....	1	7	8	Warren.....		3	3
Johnson.....	4	11	15	Warrick.....	2	1	3
Knor.....	7	14	21	Washington.....		2	2
Kosciusko.....	3	38	41	Wayne.....	12	55	67
Lagrange.....		5	5	Wells.....		5	5
Lake.....	5	6	11	White.....	2	39	41
Laporte.....	3	8	11	Whitley.....		1	1
Totals.....	119	532	651	Totals.....	160	772	932

TABLE 22.

Showing Number of Specimens of Blood Examined for Widal Reaction Each Month.

October 1, 1914–October 1, 1915.

Month.	Positive.	Negative.	Total
October.....	61	166	227
November.....	52	123	175
December.....	18	83	101
January.....	17	62	79
February.....	11	80	91
March.....	14	50	64
April.....	12	74	86
May.....	14	78	92
June.....	3	76	79
July.....	15	136	151
August.....	30	192	222
September.....	32	184	216
Totals.....	279	1,304	1,583

TABLE 23.

Showing Total Number of Blood Specimens for Typhoid Widal.

1906–1915.

Month.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	Average per Month.
October...	98	116	140	150	217	156	196	239	227	.....	171
November..	68	68	159	115	133	115	87	121	175	.....	116
December..	28	47	116	61	66	106	65	91	101	.....	76
January....	24	47	68	74	63	75	77	47	72	79	62
February....	10	58	45	65	66	69	74	46	65	91	59
March.....	15	40	61	74	94	78	67	33	88	64	61
April.....	47	45	51	64	78	69	66	73	68	86	65
May.....	13	21	69	66	92	86	80	110	93	92	72
June.....	16	27	77	70	81	85	82	75	123	79	72
July.....	43	84	132	132	128	163	132	191	178	151	133
August.....	104	126	260	269	294	275	244	303	257	222	235
September..	131	143	266	269	328	194	329	280	208	216	236
Totals..	595	822	1,444	1,409	1,640	1,471	1,499	1,609	1,655	1,080	
Average per month per year.....	49	79	120	117	136	123	125	134	138	90	

TABLE 24.

*Showing Number of Widal Specimens Positive Per Month.
1906-1915.*

Month.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	Average per Month.
October.....	48	48	91	15	24	15	33	94	61	.....	48
November....	31	41	100	8	10	4	7	30	52	.....	31
December....	17	28	93	3	4	5	5	9	18	.....	20
January.....	18	30	33	5	1	6	1	4	8	17	12
February....	8	35	19	2	1	.....	2	4	15	11	9
March.....	14	8	23	9	5	2	3	1	18	14	10
April.....	42	17	17	10	5	.....	1	1	13	12	12
May.....	13	5	21	5	10	6	2	11	3	14	9
June.....	11	8	23	4	8	5	1	8	7	3	8
July.....	34	31	45	20	11	10	5	33	23	15	23
August.....	67	13	125	39	39	24	39	64	52	30	49
September...	39	30	108	35	55	9	35	75	66	32	48
Totals...	342	294	698	155	173	80	134	334	336	148	
Average per month per year.....	28	25	58	13	14	7	11	28	28	12	

TABLE 25.

*Showing Percentage of Widal Specimens Positive Per Year.
1906-1915.*

Year.	Percent.
1906.....	57
1907.....	35
1908.....	48
1909.....	19
1910.....	11
1911.....	5
1912.....	9
1913.....	17
1914.....	32
1915.....	18

TABLE 26.

*Showing Average Percent Monthly Positive Widal.**1906-1915.*

<i>Month.</i>	<i>Percent.</i>
October.....	32
November.....	25
December.....	20
January.....	14
February.....	19
March.....	18
April.....	19
May.....	21
June.....	32
July.....	15
August.....	19
September.....	24

PARATYPHOID.

Seven hundred and seventy-two blood specimens were tested against broth cultures of B. Paratyphoid B. and only eight were found positive.

Our conclusions last year were that 33 per cent of all cases of paratyphoid cases resemble typhoid and that 10 per cent of all cases of typhoid were really paratyphoid. This, however, is not true of this year's Widal test since there were 279 positive typhoid Widal. That is to say, there were only one-third as many positive paratyphoid reactions as there should have been.

There seems to be no explanation for this variation.

TABLE 27.

*Showing Widal Examinations for Typhoid and Paratyphoid.**October 1, 1914–October 1, 1915.*

Month.	Paratyphoid.			Typhoid.			
	Positive.	Negative.	Total.	Positive.	Negative.	Total.	%
October.....	7	220	227	61	166	227	27
November.....		19	19	52	123	175	29
December.....		2	2	18	83	101	18
January.....		4	4	17	62	79	22
February.....		3	3	11	80	91	12
March.....		1	1	14	50	64	22
April.....				12	74	86	14
May.....		4	4	14	78	92	15
June.....		2	2	3	76	79	3
July.....		72	72	15	136	151	10
August.....	1	221	222	30	192	222	13
September.....		216	216	32	184	216	15
Totals....	8	764	772	279	1,304	1,583	

TABLE 28.

*Showing Number of Specimens of Blood for Paratyphoid Widal Examined Each Month.**October 1, 1914–October 1, 1915.*

Month.	Positive.	Negative.	Total.
October.....	7	220	227
November.....		19	19
December.....		2	2
January.....		4	4
February.....		3	3
March.....		1	1
April.....			
May.....		4	4
June.....		2	2
July.....		72	72
August.....	1	221	222
September.....		216	216
Totals.....	8	764	772

FECES FOR TYPHOID BACILLI.

Table 29 shows the results of 32 examinations of feces for typhoid bacilli. There are only four positives, which is a remarkably low percentage. Most of the 32 specimens were sent in early in the disease for diagnosis in atypical cases, where the Widal was negative. Since typhoid bacilli are usually excreted only in the feces after the second week of the disease, specimens taken during the first and second weeks are most likely to be negative.

Stool examinations are chiefly valuable to determine whether the patient is free from typhoid bacilli or not after recovery. In only three cases were specimens submitted to determine whether the person was a bacilli carrier or not. Most physicians prefer not to embarrass their patients by proving them bacilli carriers. Post-typhoid stool examinations will not increase until all-time health officers are appointed who have no particular interest in any individual. Probably then typhoid patients will be quarantined and released on a negative culture just as in diphtheria.

The technique of stool examinations has been considerably improved and elaborated. The method of examination is as follows:

The specimens are sent to the laboratory in Stoke's bile medium. Some of the feces bile mixture is poured into 100 c.c. water blanks and allowed to stand for thirty minutes. At the end of this time some of the mixture is smeared by sterile bent glass rods on four fifteen c. m. endo plates and two malachite green plates according to the Lentz Tietz method. At the end of twenty-four hours the colorless colonies are inoculated into Russel's double sugar medium. The colonies that form acid and no gas in stab cultures and none in the streaks are planted into plain broth. At the end of twelve hours they are tested out with a high titered agglutinating typhoid and paratyphoid serum. Only those bacteria are called typhoid or paratyphoid which are well agglutinated and immobilized by their specific serum. A careful study of the method thus far proposed for the isolation of typhoid bacilli from stools convinces one that there is no specific medium for their isolation. Most of the methods proposed give better results in the hands of the devisor than in any one elses hands. "This method does not compare in usefullness to the Widal and bacteriological examination of the blood in the diagnosis of diseases.

TABLE 29.

*Showing Number of Specimens of Feces Examined for Typhoid Bacilli
by Months with Results.*

October 1, 1914–October 1, 1915

<i>Months.</i>	<i>Positive.</i>	<i>Negative.</i>
October.....	..	6
November.....	3	4
December.....	1	2
January.....	..	3
February.....	..	..
March.....	..	..
April.....	..	..
May.....	..	..
June.....	..	5
July.....	..	..
August.....	..	..
September.....	..	8
Totals.....	4	28

URINE EXAMINATIONS.

Table 30 shows that 454 urine examinations were made during the year. Of these only 53 really ought to have been sent to the laboratory. Four hundred and one miscellaneous specimens were sent in and most of them were so old and alkaline that had there been any casts present when voided they would have all been destroyed. The presence of albumin is of little significance since the urine in many cases is improperly taken and often contains considerable pus which gives an albuminous reaction even when none is excreted by the kidneys.

Each physician who has the right to practice medicine should know how to make ordinary urine examinations so that the laboratory in most cases should only examine urine for tubercle bacilli.

TABLE 30.

*Showing Number and Kinds of Urine Examinations Made.**October 1, 1914–October 1, 1915.*

Month.	Tuberculosis.		Gonococci.		Miscellaneous.	Total.
	Positive.	Negative.	Positive.	Negative.		
October.....		7			24	31
November.....		4			27	31
December.....		5			24	29
January.....	1	1			34	36
February.....		3			38	41
March.....		7			58	65
April.....		4			32	36
May.....		7			34	41
June.....		2			34	36
July.....		4			30	34
August.....	2	3		1	34	40
September.....		2			32	34
Totals.....	3	49		1	401	454

SPECIMENS EXAMINED FOR GONOCOCCI.

Table 31 shows 767 pus smears were examined for gonococci and of these 366 were from male patients, 348 from female patients and 53 cases from patients, the sex not being given. A much higher percentage of specimens from male patients were positive than from females. This was due to a large extent to the improper method of taking specimens in the case of females, as most of them are taken from the vagina. The vagina is teeming with bacteria many of which resemble the gonococci so that no certain differentiation can be made Pus in the case of females should only be taken from the urethra or the inner portion of the cervix uteri.

TABLE 31.

*Showing Number Specimens of Pus Examined for Gonococci Per Month.
October 1, 1914–October 1, 1915.*

Month.	Male.		Female.		Sex Not Given.		Total.
	Positive.	Negative.	Positive.	Negative.	Positive.	Negative.	
October.....	27	25	7	14	4	2	79
November....	9	13	5	31	2	4	64
December....	13	15	9	22	3	2	64
January.....	15	19	9	27	.....	2	72
February....	20	19	5	19	1	2	66
March.....	4	22	7	10	1	3	47
April.....	12	12	9	21	1	1	56
May.....	4	16	9	21	4	2	56
June.....	12	23	10	23	2	2	72
July.....	13	14	3	25	2	2	59
August.....	15	16	8	22	1	5	67
September...	9	19	3	29	.....	5	65
Totals...	153	213	84	264	21	32	767

TABLE 32.

*Showing Number and Kinds of Pathological Tissues Examined.
October 1, 1914–October 1, 1915.*

Month.	Carcinoma.	Sarcoma.	Miscellaneous.	Total.
October.....	8	1	22	31
November....	14	.....	26	40
December....	6	3	20	29
January.....	5	.....	14	19
February....	9	.....	20	29
March.....	15	1	31	47
April.....	3	.....	20	24
May.....	5	2	27	34
June.....	18	3	15	36
July.....	11	.....	23	34
August.....	15	1	42	58
September...	23	6	20	49
Totals.....	132	18	280	430

TABLE 33.
Showing Location of Carcinoma Specimens.
October 1, 1914-October 1, 1915.

Month.	Uterus.	Breast.	Skin.	Penis.	Face.	Larynx.	Rectum.	Prostate.	Stomach.	Bladder.	Miscellaneous.	Total.
October.....	1	2	1	.....	3	.....	.....	2	.....	.....	2	8
November.....	1	8	1	.....	2	.....	.....	.....	.....	.....	.....	14
December.....	1	2	.....	.....	.....	.....	1	.....	.....	.....	1	6
January.....	4	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	5
February.....	4	3	.....	.....	1	.....	.....	.....	.....	.....	1	9
March.....	6	3	.....	.....	.....	1	1	1	.....	.....	2	15
April.....	2	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	3
May.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	4
June.....	1	3	.....	.....	4	.....	1	.....	2	1	.....	5
July.....	2	4	.....	.....	4	.....	.....	.....	.....	.....	5	18
August.....	5	1	.....	1	4	.....	1	.....	3	.....	3	11
September.....	4	5	.....	.....	4	.....	.....	.....	6	.....	4	23
Totals.....	35	31	2	3	21	2	4	3	12	1	18	132

Table 34 shows all specimens other than sputum examined for tubercle bacilli and the results. This table shows how seldom tubercle bacilli are found in anything but sputum. On serous membranes tubercle bacilli produce serous effusions and not ulcerative processes that contain the bacilli.

In tuberculous bone infections the pus is mostly due to secondary bacterial infection and the pus rarely contains tubercle bacilli.

Feces of normal persons seldom contain tubercle bacilli but the feces of insane persons often contain the bacilli because the patients usually swallow their sputum.

TABLE 34.
Showing Various Sorts of Specimens Examined for Tubercle Bacilli.

October 1, 1914-October 1, 1915.

Month.	Urine		Pleural Fluid.		Joint.		Cerebro-Spinal Fluid.		Pus.		Feces.		Milk.		Abdominal Fluid.		Total.
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	
October		7						2	1								14
November		4		1				1		1							5
December		5					1			1				2			14
January	1	1								3							17
February		3	1				4			1						1	13
March		7					1			6	1						20
April		4					1			4							14
May		7								5				1			15
June		2		1			1		1		1						8
July		4					6			4				2			19
August	2	3							1	5	1						14
September		2			1				2	5							13
Totals	3	49		8		1	2	14	5	34	3	27		5		5	156

GUINEA PIGS INOCULATED FOR TUBERCULOSIS.

Whenever a few acid fast bacilli are found in urine examined for tuberculosis another sample (catheterized) of urine is required for guinea pig injection. The sediment from a urine suspected of containing tubercle bacilli is injected directly into the peritoneal cavity. Not a single pig developed the disease last year, although twenty were injected with suspicious urine.

TABLE 35.

Showing Number of Guinea Pigs Inoculated for Tuberculosis, With Results.

October 1, 1914–October 1, 1915.

Month.	Positive.	Negative.	Total.
October.....			
November.....		3	3
December.....			
January.....			
February.....		9	9
March.....			
April.....		1	1
May.....		1	1
June.....		2	2
July.....			
August.....		2	2
September.....		2	2
Totals.....		20	20

OUTFITS FOR SENDING SPECIMENS TO THE LABORATORY.

Table 36 shows the number and kind of outfits sent out each month during 1915. Table 37 shows number and kind of outfits sent out each year from 1906 through 1915.

The purpose of sending outfits to physicians is to make it easier for them to comply with the United States Post Office regulations. In no sense are the outfits sold to physicians. They are only loaned, yet many of the outfits are torn up and used for all sorts of purposes. Some even go so far as to send drugs to their patients in them. Many physicians so little appreciate the convenience of the outfits that they constantly object to paying insignificant express charges and constantly send them in wrongly classified to decrease the total charges.

Local health officers should keep an adequate supply of outfits on hand at all times. Outfit supply stations should be located at drug stores or at the local health office in the City Hall or at the Court House rather than in the private office of the health officer.

Table 38 shows the approximate number of outfits sent out and returned in ten years, and the probable number lost or still in the hands of the doctors.

TABLE 36.
Showing Number and Kind of Outfits Prepared and Sent Out Each Month.
October 1, 1914–October 1, 1915.

Month.	Tuberculosis.	Diphtheria.	Widals.	Gonorrhoi.	Blood Count.	Malaria.	Bile Media.	Hook Worm.	Diphtheria Epidemics.	Total.
October.....	490	650	256	42	12	30	7	.....	1,992	3,179
November.....	302	587	259	48	4	11	.....	.....	450	1,661
December.....	289	683	119	70	.....	12	.....	.....	1,200	2,373
January.....	496	227	145	87	19	19	1	1	150	1,145
February.....	566	380	198	63	19	22	2	.....	1,600	2,850
March.....	373	420	144	64	10	7	1	.....	100	1,119
April.....	706	164	186	87	12	.....	.....	.....	.....	1,155
May.....	490	105	200	63	9	10	.....	.....	175	1,052
June.....	1,051	532	569	427	262	135	3	.....	.....	2,979
July.....	503	146	185	51	38	24	11	.....	.....	958
August.....	397	153	306	107	38	55	15	.....	100	1,171
September.....	528	295	300	94	27	33	25	.....	150	1,452
Totals.....	6,191	4,342	2,867	1,203	450	358	65	1	5,617	21,094

TABLE 37.
Showing Number and Kind of Outfits Prepared and Sent Out.
 1906-1915.

Year.	Tuberculosis.	Diphtheria.	Widal.	Gonococci.	Blood Count.	Malaria.	Bile Media.	Hook Worm.	Diphtheria Epidemic.	Total.
1906.....	358	54	180	.....	.....	25	.....	.....	.....	627
1907.....	3,417	1,676	1,504	.....	.....	223	.....	.....	.....	6,820
1908.....	4,239	2,959	1,924	.....	.....	666	.....	.....	.....	9,828
1909.....	4,240	1,956	2,128	.....	.....	500	.....	.....	.....	9,826
1910.....	4,285	2,679	2,206	402	.....	518	.....	.....	.....	10,601
1911.....	4,740	4,311	2,781	913	.....	397	.....	.....	.....	12,785
1912.....	5,662	12,692	1,968	556	.....	356	.....	.....	.....	21,430
1913.....	6,285	12,354	2,587	1,054	.....	469	.....	.....	.....	23,759
1914.....	5,989	12,723	2,816	1,253	.....	913	.....	.....	.....	23,694
1915.....	6,191	4,342	2,867	1,203	450	358	65	1	5,617	21,094
Totals....	45,466	55,746	20,971	6,134	450	4,414	65	1	5,617	138,864

TABLE 38.
Showing Outfits Probably Out Now and Outfits Probably Lost.

1906-1915.

Year.	Tuberculosis.			Diphtheria.			Widal.			Gonococcl.			Malaria.		
	S. O.	O. R.	D.	S. O.	O. R.	D.	S. O.	O. R.	D.	S. O.	O. R.	D.	S. O.	O. R.	D.
1906	...	1,503	1,503	...	171	171	...	499	499	...	...	...	...	...	...
1907	358	2,116	1,758	54	633	579	190	802	612	...	...	...	25	45	20
1908	3,417	3,136	281	1,676	2,779	1,103	1,504	1,270	234	...	...	...	223	167	56
1909	4,289	3,458	831	2,959	1,445	1,514	1,924	1,509	416	...	...	...	656	194	462
1910	4,240	3,383	657	11,066	1,638	318	2,128	2,104	1,024	178	178	178	600	189	311
1911	4,285	3,228	57	2,679	2,452	227	2,206	2,038	172	402	349	33	518	208	315
1912	4,740	4,688	52	4,311	9,377	5,066	2,781	1,850	931	913	430	483	397	200	197
1913	5,662	4,784	878	12,692	15,792	3,100	1,968	1,609	359	558	534	22	365	165	200
1914	6,295	5,048	1,147	12,354	11,064	1,290	2,587	1,603	984	753	587	166	469	148	321
1915	6,191	4,930	1,261	9,959	10,909	950	2,867	1,583	1,284	1,054	767	436	358	146	212

S. O.—Outfits sent out.

O. R.—Outfits received.

D.—Difference between outfits sent and outfits received.

It will be noticed during the year 1915 we received 960 more outfits than we sent out. These were probably outfits not returned last year.

HYDROPHOBIA.

Table 39 shows brains found positive for hydrophobia. Forty-five counties were infected. As has happened in the last few years Marion county heads the list with 85 positive brains. Hamilton stands next with 17.

There has been a slight increase in the number of positive brains this year.

TABLE 39.

Showing Brains Found Positive for Rabies From Each County.

October 1, 1914–October 1, 1915.

County.	Positive.	County.	Positive.
Adams.		Lawrence.	2
Allen.		Madison.	1
Bartholomew.	3	Marion.	85
Benton.	2	Marshall.	
Blackford.		Martin.	1
Boone.	1	Miami.	
Brown.		Monroe.	
Carroll.		Montgomery.	3
Cass.	4	Morgan.	3
Clark.	3	Newton.	
Clay.		Noble.	
Clinton.	7	Orange.	
Crawford.		Ohio.	1
Davies.		Owen.	
Dearborn.	2	Parke.	
Decatur.	2	Perry.	1
DeKalb.		Pike.	
Delaware.		Porter.	2
Dubois.		Posey.	2
Elkhart.		Pulaski.	
Fayette.		Putnam.	
Floyd.	5	Randolph.	1
Fountain.	4	Ripley.	1
Franklin.		Rush.	
Fulton.	1	Scott.	
Gibson.		Shelby.	2
Grant.		Spencer.	
Greene.	4	Starke.	
Hamilton.	17	Steuben.	
Hancock.	1	St. Joseph.	1
Harrison.		Sullivan.	
Hendricks.	7	Switzerland.	
Henry.	1	Tippecanoe.	6
Howard.	2	Tipton.	1
Huntington.		Union.	1
Jackson.	1	Vanderburg.	1
Jasper.		Vermillion.	2
Jay.	1	Vigo.	5
Jefferson.	4	Wabash.	
Jennings.		Warren.	2
Johnson.	3	Warrick.	
Knox.	3	Washington.	
Kosciusko.		Wayne.	1
Lagrange.		Wells.	
Lake.		White.	
Laporte.		Whitley.	
Totals.	78	Totals.	123

TABLE 40.

*Showing Number of Brains Examined and Found Positive Per Month.**1907-1915.*

Month.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	Average per Month.
October.....		3	4	6	8	13	20	11	.....	9
November.....	1	2	6	3	9	12	22	12	.....	8
December.....	3	8	7	7	9	6	20	16	.....	10
January.....		4	7	4	9	14	17	19	16	11
February.....		4	9	4	11	13	29	11	23	13
March.....		3	7	2	10	16	20	10	17	11
April.....		4	4	2	12	27	21	20	17	13
May.....		1	5	10	8	21	20	19	15	12
June.....		9	8	13	3	13	12	10	21	11
July.....		16	5	5	6	11	17	15	24	12
August.....		15	1	5	13	14	19	19	17	13
September.....		4	6	5	17	6	12	13	12	9
Totals.....	4	73	69	66	115	166	229	175	162	
Average per month per year.....	2	6	6	6	10	14	19	15	18	

TABLE 41.

*Showing Number and Kinds of Brains Examined for Rabies Per Month.**October 1, 1914-October 1, 1915.*

Month.	Dogs.		Cats.		Cows.		Hogs.		Horses.		Total.
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	
October.....	10	3	1	1							15
November.....	11	4	1								16
December.....	16	1		1		2		2			22
January.....	14	2			2			4		1	23
February.....	21	3			2			2			28
March.....	13	4	1		1			3	2	2	27
April.....	15	6		1	1	1	1	1			26
May.....	14	6		1		2		1		1	25
June.....	19	11	1	1	1	2					36
July.....	21	8	3		1			2			35
August.....	16	5	1	1		1					24
September.....	10	8	1	1	1	1		1			23
Totals....	180	61	10	7	9	10	1	16	2	4	300

TABLE 42.

*Showing Brains Examined for Rabies and Results.**October 1, 1914–October 1, 1915.*

Month.	Positive.	Negative.	Total.
October.....	11	4	15
November.....	12	4	16
December.....	16	6	22
January.....	16	7	23
February.....	23	5	28
March.....	17	10	27
April.....	17	9	26
May.....	15	10	25
June.....	21	15	36
July.....	24	11	35
August.....	17	7	24
September.....	12	11	23
Totals.....	201	99	300

GUINEA PIGS INOCULATED FOR RABIES.

Table 43 shows the number of guinea pigs inoculated with the brains of animals in which we were not able to find any evidence of rabies. In not a single instance did we fail to find evidence of rabies when the disease was present. The combined smear and frozen section method of examining brains may cause a few negative brains to be called suspicious, but never fails to determine a positive case of rabies.

TABLE 43.

*Showing Number of Guinea Pigs Inoculated for Rabies With Results.**October 1, 1914–October 1, 1915.*

Month.	Positive.	Negative.	Total.
October.....		8	8
November.....			
December.....			
January.....		1	1
February.....		11	11
March.....			
April.....		4	4
May.....		4	4
June.....		5	5
July.....		4	4
August.....		9	9
September.....		3	3
Totals.....		49	49

PASTEUR TREATMENTS.

This year 239 persons were given treatment to prevent hydrophobia. During the four and one-half years in which the treatment has been given by the State Board of Health 771 persons have been treated and only two have died and only one of these could be charged to the failure of the treatment to prevent. The usual fatalities are not much below 5 per cent while our death rate is less than 15 per cent.

This low percentage of deaths may be due to the fact that many persons are not bitten severely and few were bitten by dogs not absolutely proven to be rabid. Even if half of the persons treated belong to this class still our percentage of successes is very high. It seems that 90 deaths in 900 non-treated persons would be a very conservative estimate so that it could be safely said that 89 lives have thus far been saved.

The tables in this section give detailed information concerning name, age, sex and residence of patients. The location of the bite and animal doing the biting is also given. Marion county furnished more patients than any other county, in which county it may be said the situation is very bad and little has been done to improve it.

TABLE 44.

Number of Persons Who Have Taken Pasteur Treatment During the Last Year by Counties.

Counties.	Number.	Counties.	Number.
Adams		Lawrence	7
Allen		Madison	142
Bartholomew	1	Marion	
Benton	2	Marshall	
Blackford		Martin	1
Boone	2	Miami	1
Brown		Monroe	
Carroll		Montgomery	3
Cass	1	Morgan	1
Clark	3	Newton	
Clay		Noble	
Clinton	13	Ohio	
Crawford		Orange	1
Daviess	2	Owen	
Dearborn		Parke	
Decatur	2	Perry	1
DeKalb		Pike	
Delaware	2	Porter	
Dubois		Posey	
Elkhart		Pulaski	
Fayette		Putnam	
Floyd	4	Randolph	
Fountain	3	Ripley	
Franklin		Rush	
Fulton		Scott	1
Gibson	1	Shelby	5
Grant		Spencer	
Greene	3	Starke	
Hamilton	10	Steuben	
Hancock		St. Joseph	
Harrison		Sullivan	
Hendricks	5	Switzerland	
Henry	2	Tiptecanoe	1
Howard		Tipton	
Huntington		Union	
Jackson		Vanderburg	
Jasper	1	Vermillion	
Jay	1	Vigo	6
Jefferson	7	Wabash	
Jennings		Warren	1
Johnson		Warrick	
Knox	2	Washington	
Kosciusko		Wayne	1
Lagrange		Wells	
Lake		White	
Laporte		Whitley	
Totals	67	Totals	172

TABLE 45.

Mode of Infection.

Bitten by cat.....	13
Bitten by hog.....	2
Bitten by dog.....	212
Infected by cow.....	5
Infected by horse.....	5
Infected by person.....	1
Cut by knife.....	1
<hr/>	
Total number patients.....	239

TABLE 46.

*Showing Ages of Persons Who Have Taken Pasteur Treatment
During the Past Year.*

Age Period.	No. of Cases.
1 to 10 years.....	91
11 to 20 years.....	45
21 to 30 years.....	29
31 to 40 years.....	42
41 to 50 years.....	11
51 to 60 years.....	17
61 to 70 years.....	4
<hr/>	
Total.....	239

TABLE 47.

Virus Used.

United States.....	134
Lilly.....	105
<hr/>	
Total.....	239

TABLE 48.

*Classification of Persons Who Have Taken Pasteur Treatment
Last Year.*

October 1, 1914–October 1, 1915.

Males.....	1
Females.....	1
Total number.....	2

TABLE 49.

Showing Locations of Patients' Bites.

Bitten on hand.....	1
Bitten on face.....	1
Bitten on face and head.....	1
Bitten on face and hand.....	1
Bitten on head.....	1
Bitten on leg.....	1
Bitten on arm.....	1
Bitten on foot.....	1
Bitten on body.....	1
Bitten on leg and hand.....	1
Bitten on arm and leg.....	1
Bitten on face and leg.....	1
Bitten on arm and hand.....	1
Saliva on hands.....	1
Cut on hand with infected knife.....	1
Infected by nursing patient with hydrophobia.....	1
Total.....	1

TABLE 50 (A).

*Showing Number of Persons Bitten by Rabid Animal
1911–1915.*

<i>Year.</i>	<i>Pers</i>
1911.....	1
1912.....	1
1913.....	2
1914.....	2
1915.....	2
Total.....	7

TABLE 50 (B).

A List of the Names, Sex, Age and County of All Persons Who Have Taken the "Pasteur Treatment" to Prevent Rabies up to October 1, 1916.

Name.	Age.	Sex.	County.
Richard Ashton	5	M.	Hendricks.
Kenneth Altic	8	M.	Clinton.
Miss Iva Alexander	16	F.	Marion.
Hallie Abbott	5	M.	Marion.
Mrs. J. Anderson	32	F.	Marion.
Mrs. S. Allbright	55	F.	Marion.
Walter Beaman	8	M.	Marion.
Mrs. M. Bridge	28	F.	Marion.
Virginia Brown	31	F.	Montgomery.
Bert Brown	4	M.	Greene.
Jesse Beutel	25	M.	Clark.
Mr. J. W. Beutel	56	M.	Clark.
Mrs. Rachel Brunson	67	F.	Henry.
Grover Bracken	8	M.	Marion.
Mr. A. J. Banks	45	M.	Marion.
Willis Barfield	5	M.	Floyd.
Lena Biaco	6	F.	Marion.
Velma Ballinger	9	F.	Marion.
Miss Mary Bishop	53	F.	Jay.
Mrs. Mary Brooks	52	F.	Marion.
Louise Brier	3	F.	Fountain.
Mrs. Brier	33	F.	Fountain.
Paul Brook	8	M.	Jefferson.
Mary Brook	2	F.	Jefferson.
Cletus Burkhalter	9	M.	Clinton.
Stanley Boss	5	M.	Marion.
Galen Basey	8	M.	Marion.
Phoebe Craft	7	F.	Marion.
Mr. G. W. Coffin	69	M.	Marion.
Loren Collier	13	M.	Marion.
Claude Clark	13	M.	Marion.
Constance Corby	41	F.	Marion.
Mr. Elmer Clark	33	M.	Clinton.
Floyd Clark	14	M.	Clinton.
Clarence Clark	5	M.	Marion.
Raymond Clark	12	M.	Marion.
Mrs. Ella Carter	31	F.	Lawrence.
Mr. Otto Carter	34	M.	Lawrence.
Norman Carter	10	M.	Lawrence.
Helen Carter	4	F.	Lawrence.
Mr. T. A. Cooper	52	M.	Wayne.
Mr. Arthur Cotton	22	M.	Marion.
Mrs. Hattie Connor	44	F.	Marion.
Oran Chastain	14	M.	Marion.
George Cox	9	M.	Marion.
Miss Kitty Clyde	31	F.	Marion.
Francis Colburn	14	M.	Marion.
Della Lee Dawson	21	F.	Scott.
Mr. John Davis	19	M.	Hamilton.
Mrs. L. Duncan	55	F.	Marion.
Wilma Deldrich	6	F.	Marion.
Dortha Deldrich	41	F.	Marion.
Mrs. F. Drummond	19	F.	Marion.
Menno Douglas	12	M.	Marion.
George DeBaun	13	M.	Shelby.
Mr. D. Freels	58	M.	Marion.
Oneta Fox	11	F.	Marion.
Edward Fox	8	M.	Marion.
Mr. Elmer Fish	31	M.	Martin.
Theodore Fredericks	12	M.	Marion.
Ralph Figley	11	M.	Bartholomew.
Frank Fox	31	M.	Marion.
Harrold Genung	7	M.	Vigo.
Mr. George Griffith	38	M.	Marion.
Mrs. E. Gottlobb	43	F.	Delaware.
Mr. H. G. Geiger	27	M.	Hamilton.
Josephine Geiger	2	F.	Hamilton.
Mrs. Edna Glunt	24	F.	Hamilton.
Mr. S. A. Glunt	25	M.	Hamilton.
Mr. R. Grueling	59	M.	Marion.
Mr. W. Grueling	28	M.	Marion.
Miss Clara Grueling	15	F.	Marion.

TABLE 50 (B)—Continued.

Name.	Age.	Sex
Mr. A. Godby	29	M
Mr. Frank Gordon	26	M
Fay Gullion	12	M
Lester Grammer	4	M
Glenn Hopp	4½	M
Mrs. S. W. Harrison	24	M
Mrs. E. S. Hobart	39	F
Mr. E. D. Hobart	38	M
Charles Hobart	12	M
James Hobart	14	M
Evelyn Hembree	1½	F
Mr. John Harding	30	M
Ralph Hunter	11	M
Mr. Charles Habig	35	M
Mrs. A. Hildebrandt	30	F
Mr. E. Hildebrandt	28	M
Mildred Hartley	10	F
Mr. G. M. Harker	31	M
Kenneth Harker	4	M
Mr. E. W. Hollingsworth	21	M
Mable Hendryx	4	F
Mr. Frank Hahn	27	M
Herbert Haassfurther	9	M
Mr. Charles Haas	20	M
Mrs. Charles Haas	20	F
Edna Hill	3	F
Mrs. O. Hardesty	32	F
Iris Hardesty	7	F
Herbert Hill	8	M
Marie Hammerton	9	F
Mr. M. Hartley	40	M
Virgie Herndon	8	F
Mr. Martin Isom	33	M
Miss E. Johnson	23	F
Mr. Wm. Jarrett	36	M
Maurice Jones	8	M
Mr. Robert Johnson	58	M
Miss C. Kosterbadder	40	F
Mr. Chas. Kissel	45	M
Mrs. Pauline Kissel	42	F
Harrold Kirkhoff	15	M
Miss A. Kosterbader	34	F
Miss B. Kosterbader	41	F
Elizabeth Lohrman	4½	F
Herman Lee	11	M
Miles Lane	7	M
Mrs. Minnie Levi	53	F
Charles Lefever	17	M
George R. Lydick	4½	M
Mrs. Dennis Murphy	44	F
Mrs. M. McClelland	67	F
Edgar Mooreland	8	M
George Meek	4	M
Mr. W. McDonald	40	M
Mrs. W. McDonald	34	F
Lawrence McDonald	8	M
Preston Moore	13	M
Neoma Mote	8	F
Mrs. Sarah McLean	68	F
John McDonald	4	M
Clifford Mabrey	5	M
Elmer Morton	12	M
Guy McKincy	8	M
Mr. Charles McCurdy	31	M
James McCradie	3	M
Mr. George Meeks	27	M
Harry McKnight	6	M
Carroll Melvin	10	M
Albert Meredith	2	M
Dorothy Morgan	9	F
Dr. E. Modlin	24	M
Mr. Milton Murphy	33	M
Harrold Murphy	3½	M
Mr. George Matter	46	M
Mrs. George Matter	43	F
Miss Iva Matter	26	F
Miss Emily Matter	23	F
Elizabeth Miller	11	F

TABLE 50 (B)—Continued.

Name.	Age.	Sex.	County.
Mr. George Nichols.....	18	M.	Marion.
Sarah Noonan.....	6	F.	Marion.
Mrs. B. C. Nye.....	31	F.	Marion.
Mr. Merrill Ogle.....	26	M.	Hamilton.
Thomas Osborn.....	2	M.	Greene.
Mrs. J. Patterson.....	58	F.	Marion.
Mary Jane Palachek.....	3	F.	Henry.
Miss Grace Pursell.....	24	F.	Marion.
Delever Pool.....	10	M.	Marion.
Mr. Henry Porter.....	30	M.	Marion.
Antonetta Parks.....	8	F.	Marion.
Ozenia Parks.....	4	F.	Marion.
William T. Pruitt.....	7	M.	Benton.
Janet Parks.....	4	F.	Marion.
Bert Parsley.....	23	M.	Marion.
Charles Pence.....	7	M.	Marion.
Mr. A. D. Pinkstaff.....	53	M.	Knox.
Joseph Risley.....	5	M.	Marion.
Edna Risley.....	7	F.	Marion.
Goldie Richey.....	9	F.	Marion.
Helen Rademacher.....	9	F.	Marion.
Mrs. Charles Ruble.....	25	F.	Decatur.
Helen Ruble.....	4	F.	Decatur.
Catherine Ray.....	6	F.	Marion.
Genevieve Ray.....	5	F.	Marion.
Mr. A. D. Rea.....	38	M.	Marion.
Estelle Reibley.....	6	F.	Miami.
Anson Roselle.....	8	M.	Marion.
Mr. H. Richards.....	24	M.	Clinton.
Mrs. H. Richards.....	21	F.	Clinton.
Robert Ritter.....	13	M.	Marion.
Martha Ryan.....	4	F.	Clinton.
Donald Russell.....	8	M.	Marion.
Verner Stewart.....	18	M.	Vigo.
Mrs. H. Schoffstall.....	23	F.	Vigo.
Leonard Stricker.....	12	M.	Marion.
Gaylord Stewart.....	12	M.	Marion.
Mr. Ben Summers.....	59	M.	Vigo.
Mr. Herman Spacek.....	33	M.	Marion.
Mr. J. E. Smith.....	62	M.	Marion.
Mrs. S. Schermerhorn.....	17	F.	Lawrenc.
Mr. W. Schermerhorn.....	23	M.	Lawrence.
Arnold Schnepel.....	16	M.	Marion.
Mr. W. E. Sanders.....	30	M.	Marion.
LaNoma Scherer.....	4	F.	Fountain.
Mr. C. O. Sutton.....	31	M.	Marion.
Mr. Wm. Shotts.....	38	M.	Marion.
Louise Swarens.....	4	F.	Floyd.
Stanley Studdarth.....	13	M.	Perry.
Bernard Solomon.....	4	M.	Marion.
Miss A. E. Schweitzer.....	33	F.	Marion.
Iven Snyder.....	5	M.	Marion.
John Sturm.....	16	M.	Marion.
Esther Sturm.....	8	F.	Marion.
Melbourn Schwartz.....	7	M.	Greene.
Gustave Schultz.....	18	M.	Marion.
Bennett Thayer.....	5	M.	Clinton.
Raymond Thayer.....	8	M.	Clinton.
Blanche Thompson.....	19	F.	Orange.
Mr. H. Talbott.....	42	M.	Marion.
Richard Thomas.....	7	M.	Vigo.
Louise Thomas.....	12	F.	Vigo.
Rosalee Ulmer.....	3	F.	Floyd.
Mr. Luther Van Winkle.....	34	M.	Marion.
Mr. W. A. Vaughn.....	40	M.	Marion.
Charles Vandergrift.....	7	M.	Marion.
Mr. W. Van Gundy.....	35	M.	Marion.
Mrs. Rose Wilson.....	38	F.	Marion.
Mr. John Whitty.....	60	M.	Gibson.
Ruby Wooten.....	8	F.	Marion.
Dr. G. N. Wickwire.....	52	M.	Hendricks.
Mr. M. Whitlock.....	43	M.	Marion.
Mrs. M. Whitlock.....	33	F.	Marion.
Miss M. Whitlock.....	20	F.	Marion.
Miss Edna Whitlock.....	14	F.	Marion.
Mildred Walters.....	5	F.	Marion.
Mrs. W. E. Walters.....	33	F.	Marion.
Mr. W. E. Walters.....	28	M.	Marion.

TABLE 50 (B)—Continued.

Name.	Age.	Sex.	County.
Mrs. Emma B. Wright.....	53	F.	Marion.
Evelyn Wulle.....	4	F.	Marion.
Mr. Herman Wegehof.....	34	M.	Marion.
Dr. A. H. Wacker.....	38	M.	Marion.
Manie Wise.....	14	M.	Clinton.
Mr. Bert Wolfe.....	39	M.	Marion.
Chas. Woffendale.....	13	M.	Clinton.
Mr. L. Wilkerson.....	32	M.	Marion.
Herbert Weise.....	14	M.	Marion.
Lorene Young.....	7	F.	Marion.
Dr. C. York.....	38	M.	Hendricks.

RABIES IN INDIANA FOR TEN YEARS.

For several years there has been a general impression that a great many animals were dying of rabies. The medical profession did not consider seriously this general belief. There was no method to prove or disprove this belief until the discovery of Negri bodies by Negri in 1903. In 1907, the method of examining brains was improved by Williams and Lowden of the New York City Research Laboratory. This discovery came soon after the establishment of the bacteriological laboratory of the Indiana State Board of Health in December, 1906. In the nine years since that time the following number of brains have been found to contain Negri bodies.

TABLE 51.

Brains Positive and Percentage Positive.
1906-1915.

Year.	Brains Positive	Per Cent. Positive
1906.....	1	
1907.....	12	84
1908.....	73	85
1909.....	69	44
1910.....	66	51
1911.....	114	48
1912.....	158	50
1913.....	188	57
1914.....	198	63
1915.....	201	67
Total.....	1,090	

It is very interesting to note that the percentage of positives fell from 84 per cent in 1907 to 67 per cent in 1915 in spite of the improvement in method and technique. First there has been a marked improvement in the Harris staining method. The Frothingham impression method of making smears is also a decided help. These two improvements have made diagnosis in uncertain cases easier and more certain.

Making frozen sections of the Gasserian ganglion and staining with polychrome methylene blue has helped a great deal in doubtful cases. The use of guinea pigs instead of rabbits has made the biological test easier, shorter and less expensive.

All these improvements have made laboratory workers less willing to make a positive diagnosis from stained smears alone, desiring to wait for Gasserian ganglion section or a guinea pig injection in cases where the persons bitten were adults.

Another cause for higher percentages in the beginning is that only animals' brains were sent in that had typical clinical rabies. There has been a steady increase in the total number of brains examined and a steady fall in the percentage positive. One cause for the increase in the total number of brains sent in is that people are more alive to the possible presence of rabies and are therefore not willing to take any chances in view of the ease with which they can obtain a laboratory diagnosis.

People are so wrought up over the possibility of rabies in animals dying with symptoms of the disease of the brain or the spinal cord, that these animals are immediately sent to the laboratory for confirmation or disproof of their suspicion. There is no doubt that the same thing holds true of animals as of human beings that no absolutely positive diagnosis of rabies can be made from the clinical symptoms alone without being confirmed by an examination of the brain for Negri bodies.

Another more important cause for the increase in positive brains is due to the fact that rabies has increased both in number of cases and in territory covered.

The number of brains examined in 1907 which was 82 was probably all of the brains examined in 1907. It is doubtful that the 300 brains examined in 1915 is the total number examined, since a few are examined at the Veterinarian College, a few at Lafayette, and some at Chicago. For the proper regulation of quarantine all positive cases should be reported to the Indiana State Board of Health.

Dogs and cats are mostly concerned in the spread of rabies as is shown in the following table:

TABLE 52.

*Showing Kinds of Brains Found Positive.**1909-1915.*

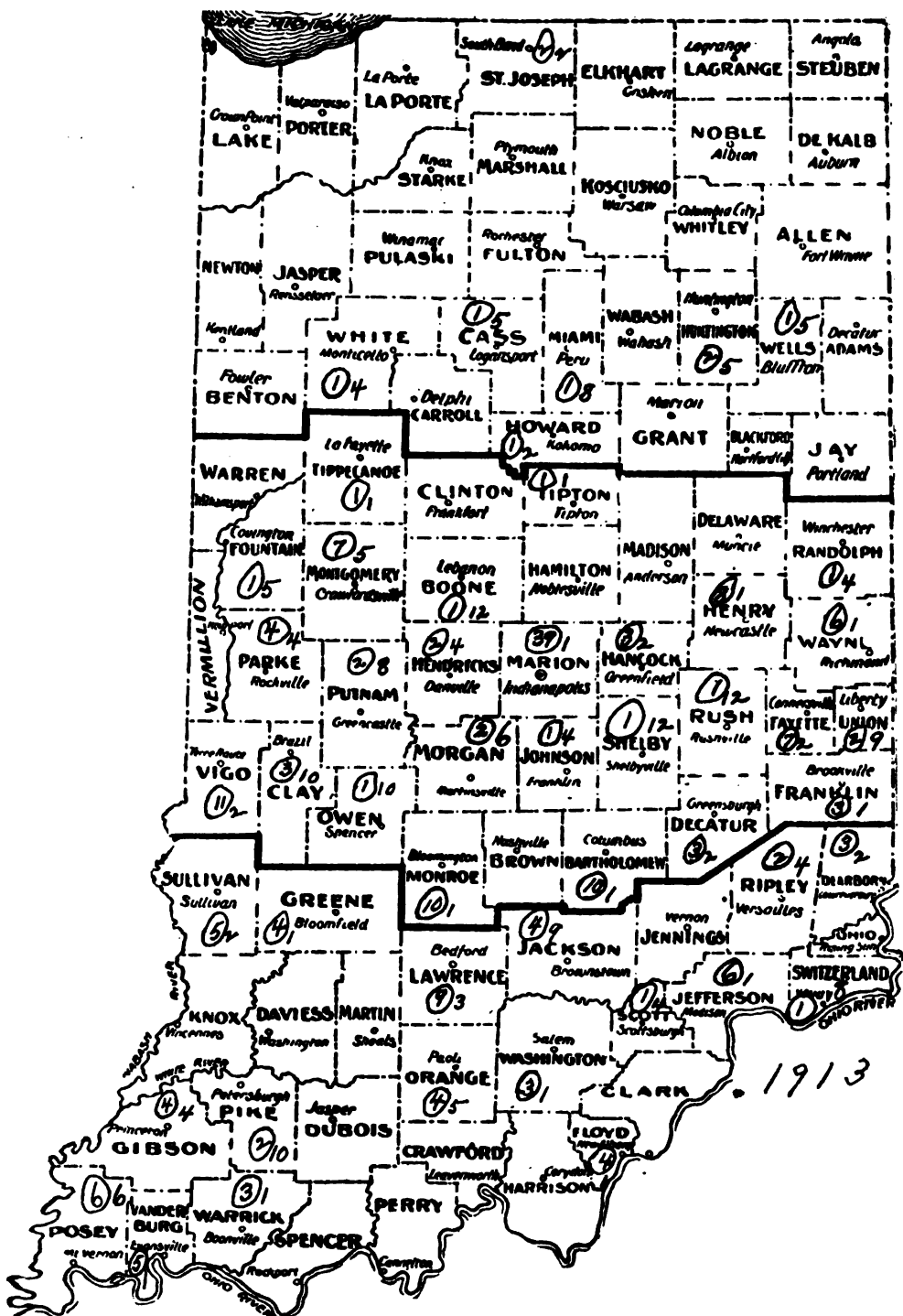
Years.	Dog.	Cat.	Hog.	Horse.	Cow.	Mule.	Sheep.	Human.	Coon.	Fox.	Total
To Oct. 31—											
1909.....	123	8	9	.....	4	.....	1	.....	.....	.....	145
1910.....	100	1	6	2	3	.....	3	1	.....	.....	116
1911.....	58	2	2	2	4	.....	.....	.....	.....	.....	68
1912.....	146	1	1	1	9	.....	.....	.....	.....	.....	158
1913.....	148	3	2	1	5	.....	.....	.....	.....	.....	159
1914.....	164	15	3	4	12	1	.....	.....	1	1	201
1915.....	180	10	1	2	1	.....	.....	.....	.....	.....	194
Totals..	919	40	24	12	38	1	4	1	1	1	1,041
Per cent. of totals	88.2	3.8	2.3	1.1	3.5	.15	.6	.15	.15	.15	



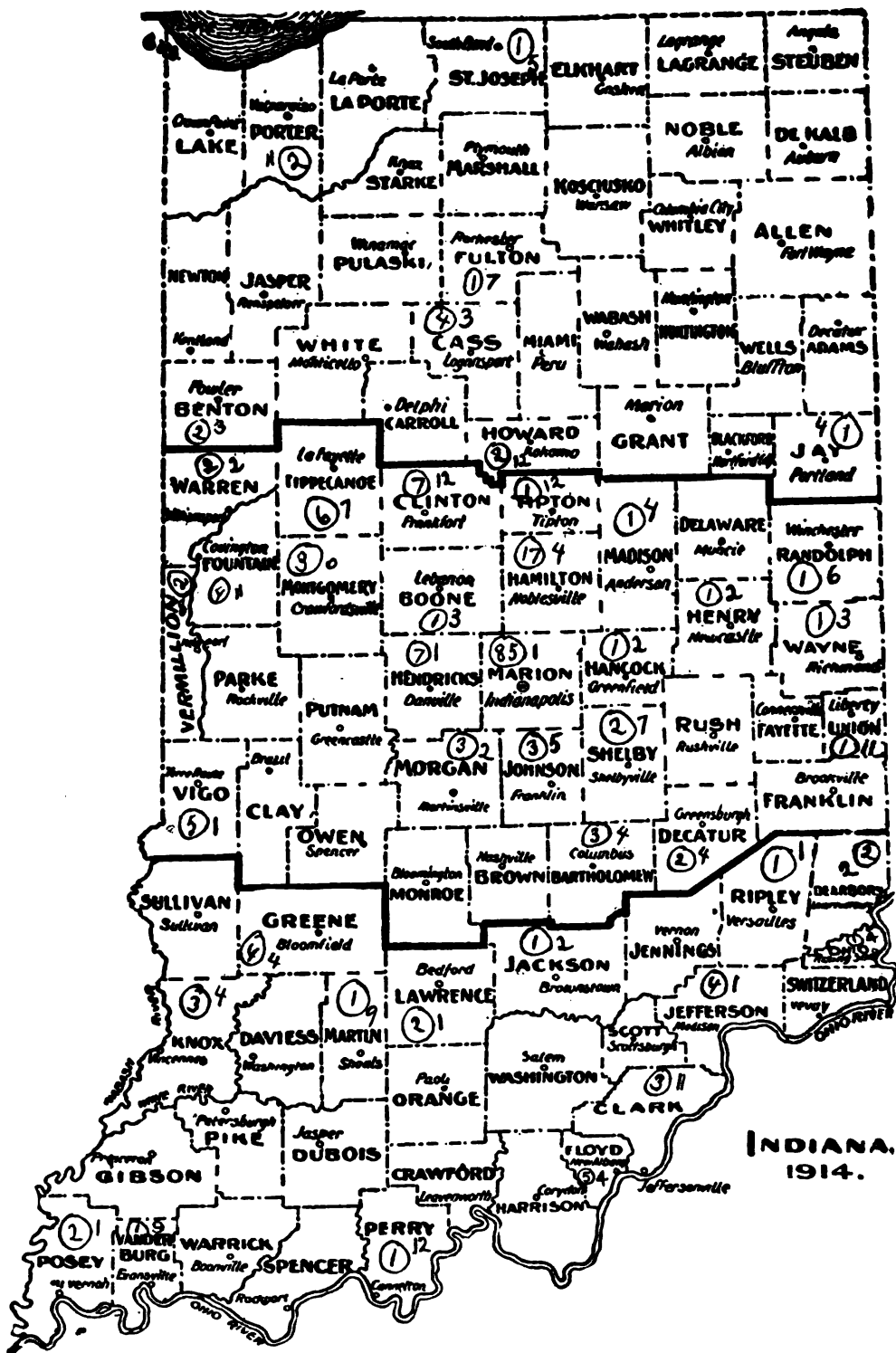
The figure outside of circle indicates the month in which the first cases occurred. The number inside the circle indicates the total number of cases in that county for that year.



The figure outside of circle indicates the month in which the first cases occurred. The number inside the circle indicates the total number of cases in that county for that year.



The figure outside of circle indicates the month in which the first case occurred. The number inside the circle indicates the total number of cases in that county for that year.



The figure outside of circle indicates the month in which the first case occurred. The number inside the circle indicates the total number of cases in that county for that year.

Thus we see that dogs are chiefly concerned in the spread and continued epidemic of rabies. This has been conclusively shown in Great Britain where muzzling and rigid quarantine of all dogs reported has completely eradicated rabies.

No county in Indiana has been absolutely free from rabies in the years 1906 to 1915. In many places this disease has been endemic and at times becoming epidemic.

The Indiana county quarantine law of 1911 has done good work where there has been co-operation with the local health officer.

However, an ideal county administration will not eradicate rabies unless there is efficient co-operation of the adjoining counties. But an efficient State administration of the measures which prevent the spread of rabies will not be efficient unless the adjoining States co-operate. Thus we see that antirabic measures must be county, State, National, International and Continental.

TUBERCULOSIS.

The information on 5,000 sputum specimens found positive for tubercle bacilli was tabulated with reference to occupation whether it was outdoor, or indoor, or mixed. It was found that the majority of males infected worked out of doors, while the majority of females infected worked indoors. An equal total number of both sexes had tuberculosis.

Seventy-five per cent of all positive sputum specimens are diagnosed in the first 12 months of the symptoms of the disease. Sixty-two per cent of all persons found to have tuberculosis in the first 12 months of the disease are between 16 and 35 years of age. Of the total number found positive for that age period males constitute 57 per cent and females 65 per cent.

The percentage of positive sputum specimens coming from females up to 35 years of age is higher than that of males. This agrees with the death percentage. The average age at death of persons dying with pulmonary tuberculosis is under 35 years, three years more than the average of persons having tubercle bacilli in their sputum. This would seem, at least in Indiana, that persons infected with tuberculosis so that tubercle bacilli appeared in their sputum lived about three years after that time.

Of the age period from 16 to 35 the percentage is as follows: 16 to 20 years gives 85 per cent positive; 21 to 25 years gives 80 per

cent; 26 to 30 years gives 81 per cent; 31 to 35 years gives 80 per cent positive in the first 12 months of the disease.

Of the age period 16 to 20 years we found 39 percent were positive in the first 3 months; 24 percent in 6 months; 9 percent in 9 months and 19.5 in 12 months.

Of the age period 21 to 25 we found that 35 per cent were positive in 3 months; 20 per cent in 6 months; 10 per cent in 9 months and 16 per cent in 12 months. Of the age period 26 to 30 we found 33 per cent positive in 3 months; 20 per cent in 6 months; 10 per cent in 9 months; 18 per cent in 12 months. Of the age period 31 to 35 we found 27 per cent positive in 3 months; 26 per cent in 6 months; 12 per cent in 9 months and 15 per cent in 12 months.

Table 53 shows relation of occupation to tuberculosis. Indoor occupation gives 63.14 per cent; outdoor 27.31 per cent; mixed occupation 9.55 per cent.

It is very evident that occupation and housing conditions are not the only determining factors in tuberculosis.

TABLE 53.

Showing Relation of Both Sexes to Occupation.

	Indoor.		Outdoor.		Mixed.	
	Number.	Per-centage.	Number.	Per-centage.	Number.	Per-centage.
Male and female.....	1,461	63.14	632	27.31	221	9.55

IS TUBERCULOSIS A HOUSE DISEASE?

RELATION OF OCCUPATION AND HOUSING CONDITIONS
TO TUBERCULOSIS.

Table 54 shows that 35.23 per cent of all males developing tuberculosis work indoors, while more than 52 per cent working outdoors develop this disease, while the mixed occupations give only 11.58 per cent.

On the other hand this table shows that 92.14 per cent of all women developing tuberculosis work indoors, none work outdoors and 7 per cent have mixed occupations.

TABLE 54.

Showing Relation of Sex to Occupation.

	Indoor.		Outdoor.		Mixed.	
	Number.	Per-centage.	Number.	Per-centage.	Number.	Per-centage.
Male.....	421	35.23	632	52.89	142	11.58
Female.....	1,040	92.94	.....	.....	79	7.06

Table 55 shows that only 28.82 per cent of all persons developing tuberculosis working indoors are males, while 71.18 per cent are females. 100 per cent of all persons who work out of doors that develop tuberculosis are men.

TABLE 55.

Showing Relation of Each Sex to Occupation.

	Indoor.		Outdoor.		Mixed.	
	Number.	Per-centage.	Number.	Per-centage.	Number.	Per-centage.
Male.....	421	28.82	632	100	142	64.25
Female.....	1,040	71.18	.....	.....	79	35.75

DIPHTHERIA DIAGNOSIS BY MEANS OF LOEFFLER'S BLOOD SERUM CONTAINING POTASSIUM TELLURATE.

One of the greatest difficulties in microscopical examinations of swab cultures for *B. diphtheria* is the great abundance of other bacteria.

Although Loeffler's blood serum is a culture medium of election for *B. diphtheria*, but many other mouth bacteria grow as well or better on this medium.

For a long time bacteriologists have been trying to find some chemical that would inhibit the growth of mouth bacteria. A large number of compounds, mostly basic dyes and salts of Metalloids have been tested with the result that *B. diphtheria* is among the bacteria most susceptible to the inhibiting action of these substances. It was discovered, however, that the salts of tellurium have a much less inhibiting action on *B. diphtheria* groups than on the staphylococci, streptococci and other pathogenic bacteria in the mouth.

Conradi and Troch added calcium bimallate and potassium tellurate to ordinary Loeffler's blood serum with good results. This has not been widely adopted apparently for two reasons; first, the tellurite salt instead of the tellurate has been used by most workers; second, the Conradi media was first recommended as a color differentiating medium as well as inhibiting. The color differentiation is now believed to be of little help.

The bacteriological laboratory of the Indiana State Board of Health has made parallel inoculations on plain Loeffler's blood serum and on this serum medium containing 1.5 c.c. of a 1 per cent solution of potassium tellurate.

Our method of bacteriological examination for *B. diphtheria* is as follows: First the medium is inoculated with the swab, second the swab is smeared on a slide, stained and examined immediately, third in the evening all cultures made in the morning are examined, fourth all cultures made the previous day are examined in the morning and a final report made at that time.

In all 1,447 diagnostic diphtheria cultures were made on ordinary Loeffler's blood serum and on the same serum containing different amounts of potassium tellurate.

TABLE 56.

Showing Results of the Use of Ordinary Loeffler's Blood Serum and the Same Medium Containing 1.5 c. c. (1%) of Potassium Tellurate per 100 c. c.

Medium Positive.	Number.	Percentage.	Difference between Ordinary and Potassium Tellurate.	Sum of Ordinary and Potassium Tellurate.
Ordinary.....	233	26	2 %	
Potassium tellurate.....	251	28		
Combined Positive.....	270	30	.....	4 %
Total number.....	890			

We see that the potassium tellurate gives 2 per cent more positives than the ordinary and the combined positives are 4 per cent higher than the ordinary method of examination.

To determine the maximum and minimum and optimal amounts of potassium tellurate to be added one lot of media was made with 1.6 c.c. (1 per cent) solution and another with 1.4 c.c. (1 per cent sol.) per 100 c.c.

The first gave the following results:

Total number.....311	Number.	Percentage of Positive.	Difference between Ordinary and Potassium Tellurate.	Sum of Ordinary and Potassium Tellurate.
Medium Positive.				
Ordinary.....	70	22	2 %	
Potassium tellurate.....	61	20		
Combined Positives.....	81	26	.....	4 %

The second gave the following results:

Total number ex.....246	Number.	Percentage of Positive.	Difference between Ordinary and Potassium Tellurate.	Sum of Ordinary and Potassium Tellurate.
Medium Positive.				
Ordinary Medium.....	61	24.7	1.2 %	
Potassium tellurate.....	58	23.5		
Combined Positives.....	66	26.8	.....	2 %

We see that a slight excess of potassium tellurate above 1.5 c.c. affects the percentage of positives; eg. 4 per cent more than does a slight decrease below; eg. 3 per cent. It would seem then that 1.5 c.c. (1 per cent solution) per 100 c.c. of medium is the optimum amount of potassium tellurate.

The increased number of positives obtained with the potassium tellurate medium is not by any means a measure of the complete advantage of this medium. Smears made from the tellurate medium contain much fewer contaminating bacteria and decrease the time necessary to examine the microscopic slides almost half and lessens the work of getting pure culture enormously.

TYPHOID PREVENTION.

WILL SHIMER, M.D.

The measures necessary to counteract the spread and eradicate typhoid fever are of two kinds, defensive and offensive.

Defensive measures are pasteurization of milk, filtration of water, sanitary sewage disposal, screening against flies and typhoid vaccination. Offensive measures are sterilization of feces and urine of typhoid patients, isolation of cases, detection of mild atypical cases and bacilli carriers, and the control of bacilli carriers.

Defensive measures alone will not lessen the number of cases more than 60 per cent. Offensive and defensive measures together will eliminate all but about 10 per cent of cases.

Water and milk as the sources of typhoid infection have been much over estimated. Water and milk epidemics are fairly easy to recognize and any health officer of experience can recognize them at once.

However, the vast majority of typhoid cases do not occur in epidemics but sporadically. It is these sporadic cases that offer the most difficult problems. It is here that we must apply our offensive measures. As every case of typhoid infection must come from a previous case the health officer should try to decide definitely the source of this particular case and not be satisfied with a mere superficial examination of the milk and water supply. Man is the primary source of typhoid bacilli, milk and water are only secondarily contaminated and play only a passive part in the spread of typhoid.

The following information should be obtained in every case of typhoid:

Name, age, sex and occupation of patient; onset of disease; Widal reaction whether positive or negative; whether patient has been away from home 15 days previous to onset, if so, where and what family they visited; source of water supply, whether wells, springs or city water; source of milk supply, naming dairy; whether patient has been associated with typhoid; whether there has been a case of typhoid, influenza, acute gastritis, gastrogastritis or neurasthenia in the patient's family within the last two or three years and whether the patient's mother has ever had typhoid.

It is possible in over 60 per cent of all sporadic cases to definitely locate the source of infection. After the source of this particular case has been decided upon and future infection from that source

prevented, it is necessary to prevent other persons from being infected from the present case. To accomplish this the following rules should be observed:

1. Isolate the patient.
2. A trained or experienced nurse should be obtained to take care of the patient who knows that typhoid is contagious and who knows how to prevent future infection.
3. No one taking care of patient should be allowed to prepare food for any one else.
4. Sterilize feces, urine, eating utensils, clothing and bedding of patient.
5. Nurse or person caring for patient should sterilize hands before each meal.
6. After recovery of patient feces should be examined repeatedly to determine whether typhoid bacilli are present or absent.

The offensive measures against typhoid are much more difficult to carry out than the defensive measures.

PUS FOR GONOCOCCI.

ADA E. SCHWEITZER, M.D.

Pus smears to be examined for gonococci should be fairly thin. On the other hand if too much pressure is used in spreading the cells containing the diplococci they will be drawn either to the extreme edge of the slide or the cells themselves will be so torn and distorted that the presence of intracellular diplococci can be determined with difficulty. Two smears should be sent, so that a comparative study may be made with the ordinary stain and with the Gram differential.

In filling out history cards the source of infection should be given if possible, also the civil condition of the patient.

The following 264 cases having positive microscopical findings have been summarized on the basis of the facts given by the physicians.

Of those reported married 6 were males, ages 18, 22, 23, 25, 36 and 45, and 9 females ages 22, 23, 26, 28, 30, 36, 42 and 1 not given. The husband of 45 and 1 of 23 years are also fathers, the latter of 3 children. The husband of 18 had been ill 3 months, the 1 of 36 worried as wife had vaginitis, and the husband of 22 had been ill 4 months, but had not thus far infected his wife. Extra marital exposure of males is frequently implied. Of the 9 females the husband was responsible for infection in 7 instances. The wife is often reported as being of good family.

Exposure was known or admitted in 36 cases, denied with various excuses in 5 cases. Recurrence of discharge at intervals for 4 to 5 to 15 years was noted in several "cured" cases after severe exertion or the use of alcohol stimulents. The number of specimens submitted were from cases clinically well and 1 from a case of 4 years duration to determine fitness for marriage. Twenty of the specimens were from girls of known immoral history and were taken on admission to an institution to prevent a spread of the disease.

Of the 264 positive specimens 161 were from males, 87 from females and in 76 cases the sex was not given.

In 42 cases the age was not given. In the first age group from birth to 10 years old we find 16 cases the age being 2, 6 and 7 weeks, 1 month and $2\frac{1}{2}$ years, $3\frac{1}{2}$, 4, 6, 7, 8, 9 and 10 years respectively. From 11 to 20 years there are 35 cases; from 21 to 30, 96 cases; from 31 to 40, 47 cases; from 41 to 50, 17 cases and over 50, 4 cases, the eldest being 65 years.

The physicians' diagnoses coincided with the clinical findings in 175 cases. No diagnosis was given in 73 and other diagnoses were given as follows: Malignancy or gonorrhea, simple urethritis 8, catarrhal condition 2, tuberculosis 1, leucorrhoea 2, and endometritis 2.

After the first symptoms appeared 67 patients reported in from 1 to 7 days and 44 more within the first month, from 1 month to 1 year after first symptoms appeared 65 examinations were made and from 1 to 15 years 12 examinations. Improper or incomplete treatment, recurrences after severe exertion or unusual stimulation often alcoholic, and re-exposure are responsible for positive findings in the chronic cases.

Organs involved and complications were noted as follows: Urethral 168, stricture 2, bladder 6, rheumatism in boy of 18, vulva 5, vagina 42, cervix 4, tube 2, ovary 1, broad ligament 1, pelvis, 1 eye 5. In one female patient of 38 years Gram negative intracellular diplococci were found in the pus from a sinus following laparotomy for removal of appendix, tubes and ovaries. This case was complicated by pains in knees and ankles.

Specimens from children under 10 years have been included in the foregoing summary. Five of these were infections of the eye, either at birth or shortly after. One child of 2 weeks was delivered by a physician who did not use prophylactic treatment. Another physician sent in the specimen. Diagnosis of gonorrhea ophthalmia in a girl of 4 was confirmed by a laboratory finding but no history was obtainable. One girl of 6 another aged 3 with vaginal involvement were infected by the respective fathers with whom they slept, another girl of 9 had a vaginal and urethral discharge reported to be due to the carelessness of an older brother who had gonorrhea. In one girl of 7 the glands of the groin were involved. An undergarment sent in for examination from an Italian American girl of 3½ who had been raped showed spermatozoa present but no gonococci. The children were all females but 2, 1 male having ophthalmia and the other urethral involvement. Little history was obtainable in these latter cases.

Conclusions from former reports may be repeated:

1. Gonorrhea is an easily transmissible disease.
2. Infection follows exposure in a large percent of cases.
3. The gonococcus thrives in its favorite habitat, the mucous membrane, and its local ravages are limited only by their extent.
4. It may enter the blood stream and be carried to various organs of the body, producing inflammation there.

5. Subsidence of the clinical symptoms does not indicate a cure.
6. The absence of gonococci in one or several bacteriological specimens does not mean that they have all been destroyed. They may only be inaccessible, and under influence favorable to their growth will reappear and may again be found in the secretions.
7. Patent medicines taken internally will not cure the patient.
8. The destructive effect of this disease is not limited to the individual. It may result in the infection of offspring or it may produce sterility in a husband or wife or both; in any case making reproduction impossible.

Furthermore the welfare of the new-born child demands the use of prophylactic treatment of the eyes in every case without regard to "good family history." Children should sleep alone, certainly not with parents or other persons who have gonococcus infection. Repeated bacteriological examinations from specimens taken at irregular intervals should be required before treatment is discontinued. The destructiveness of this disease from both the physical and racial viewpoint should demand the utmost care on the oath of both physician and patient.

This disease has become so interwoven into our social fabric that control is difficult.

There are those who fear a wholesale disintegration should the facts become generally known. The mere knowledge of facts will save very few. Knowledge must be preceded by training and self correction and by the development in youth of a sense of racial responsibility.

Pending such training, the immediate situation demands consideration. Physicians must co-operate with public health officials in an attempt to limit this disease.

The reporting of all cases, and the isolation of such patients as will not comply with sanitary requirements as to treatment and cure would be of value, though inadequate hospital facilities for this class of patients would render such isolation impracticable at present.

MALARIA.

ADA E. SCHWEITZER, M.D.

From October, 1914, to October, 1915, 146 specimens of blood were examined for malarial parasites.

The organisms were found in only 6 cases, all from male patients. The ages were given as 16, 19, 24, 27, 2 at 47 and 1 at 69 respectively. One infection occurred in southern Michigan in the lowlands along the Kankakee, one in Central America, one on the Ohio River on a boat below Evansville, one at Tell City and one at Madison. The one infected in Central America had suffered from several previous attacks. This case was probably the estivo autumnal variety though no crescents were found, only the signet ring form being present in the specimens sent. In the others the tertian parasite was found, three being double tertian infections.

It is of interest to note that these specimens of blood were secured before, during and after the paroxysm.

If all physicians having cases of malaria would secure outfits and send properly prepared blood films to the laboratory for confirmation of their diagnosis much interesting data concerning the actual prevalence of this disease in the State might thus be secured. (See directions below.)

Take the blood during a paroxysm, if possible, and before quinine is administered.

1. Cleanse the skin of the lobe of the ear with soap and water, followed by alcohol and ether.

2. Prick the lobe deeply to insure a free escape of blood, manipulating the lobe with the finger, if necessary, to secure a sufficient amount. A large straight Hagedorn needle is best.

3. Wipe off the first two or three drops which exude with a clean cloth, and touch the freshly escaped blood with the edge of a perfectly clean glass slide, so as to secure a very small drop.

4. Draw the edge of another glass slide over the surface of the glass slide to which the drop is attached at an angle of about 30 degrees, thus spreading the blood in a thin film on the second glass slide. There should not be an instant's delay between the operations described in paragraphs three and four. Let the film dry thoroughly. Do not leave the glass slides sticking together.

5. Make two such glass slide preparations from each case, replace them in container and fill out the enclosed card. Put on postage required. No due postage will be paid.

WASSERMANN TEST FOR SYPHILIS.

WILL SHIMER, M.D.

Many requests have been made on the Bacteriological Laboratory of the Indiana State Board of Health for Wassermann test of blood for syphilis.

Two years ago experiments with the Wassermann test were made for several months to determine the suitability of this test for the State Laboratory. Our conclusions at that time were against doing the work in State Laboratories and so far we have found no reason for changing our opinion.

An article in the Interstate Medical Journal February, 1915, by Wolbarst "A Further Clinical Study of the Contradictory Findings in the Wassermann Test" present some rather startling conclusions. "Blood two days old, even when kept in an ice-box, is unreliable for the test; and much more so, if it has been kept at car temperature while in transit to a distant laboratory." The clinician has no right, in any circumstance, to make a diagnosis of lues simply because a laboratory reports a positive Wassermann reaction. From serologists themselves very little encouragement can be obtained. All are agreed that the present state of the Wassermann test is unsatisfactory owing to the fact that there is no uniformity or standard in the reagent employed or in the technique.

1. Three serologists working independently, tested sera simultaneously in 85 cases; they agreed in 42 per cent, differed more or less in 19 per cent, and there were gross contradictions in 39 per cent of the cases. Two serologists, working independently and simultaneously, examined sera in 49 cases; they agreed in 65 per cent differed in 23 per cent and there were gross contradictions in 12 per cent of the cases.

These conclusions are particularly startling because the three serologists are the foremost ones in New York and average over 10,000 tests per year for each, and all the tests were made on identically the same blood under exactly the same conditions.

AIDS TO DIAGNOSIS IN PELVIC INFLAMMATIONS IN WOMEN.

ADA E. SCHWEITZER, M.D.

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Pelvic inflammations include all inflammatory conditions of the pelvic tissues and organs. The primary or idiopathic form is rare. Secondary manifestations resulting from extension of inflammation of organs covered by the peritoneum, or from adhesions are more frequent. So common are these affections that their prompt recognition by the physician might be taken for granted were it not for the fact that many cases are diagnosed so late as to render any remedial measures futile. Early diagnosis followed by intelligent treatment would result in the restoration to a practically normal condition of many women who later face the alternative of a mutilating operation or chronic invalidism with possible untimely death in either case.

Primarily the importance of eliminating a psycho-neurotic origin of the ailment is obvious. Possible hereditary tendencies or defects may be discovered by a careful analysis of family history. The personal history of the patient, her age and civil condition, together with her mental attitude, her posture and her unconscious facial expression may enable the physician to differentiate between symptoms due to abnormal mental states of hysteria¹ and those due to some actual systemic lesion. Again in a neuresthenic patient the location of a pain will be variable; in one place today, as in the shoulder, and in some other remote place tomorrow, as in the ovarian region or in the sole of the foot. Complaint of a definite pain, constant as to locality, over a considerable period of time will give assurance that some gross pathological lesion is responsible for it. Oldfield² holds that pelvic disorders have no specific action in causing neuresthenia, that pelvic complaints, with the exception of disorders of menstruation, are not infrequently unassociated with physical signs and are due to a general neuresthenia. The significance of this distinction is manifest³, for when the idea of disease fastens itself on the hysterical patient her case is hopeless until some kind of providence fixes the mind on an incompatible idea. A complete readjustment of mental

¹Mullan, E. H.: Mental Hygiene, U. S. Public Health Reports. 1914. XXIX. No. 4.

²Oldfield, E.: Some Pelvic Disorders in Relation to Neuresthenia, *Practitioner*, London, Abst., Jour. Am. Med. Assn., 1913, October, LXI, No. 14, p. 1331.

³DuBois, Paul: *The Psychic Treatment of Nervous Disorders*, Chap. 3, p. 35.

habits and an education of the will to a tolerance of the disagreeable is often necessary to effect a cure.

If, however, one is able to eliminate hysteria he may proceed with some degree of confidence to employ other diagnostic measures. Careful physical examination supplemented by the ability to distinguish the pathological entity found, and the employment of all available chemical, bacteriological or serological tests may substantiate a diagnosis or ultimately may leave one still in doubt as to the precise lesion present.

Physical examinations should be made promptly and in selected cases under anesthesia that the exact condition of the pelvic organs may be ascertained¹. Bimanual examination often reveals the presence of unsuspected lesions. When present, the symptoms of more intense pain and localized tenderness together with greater density of adhesions at a given point aid in locating the site of the lesion. This original focus may be irreparably injured while the surrounding organs affected only by bands of adhesions may be temporarily impaired as to function, though structurally they are intact.

In the non-sensitive affections the patient is often unaware of any pelvic disease until some irregularity of function presents itself. Notwithstanding the relative infrequency of a non-infectious source of these conditions its possibility must be considered. It may be some irritating chemical secreted by the tubes or ovaries or it may be some foreign body. In the case of a tubal hematocele or the rupture of an extensive hematoma due to diseased corpora lutea the effused blood acts as the disturbing agent. Extra-uterine pregnancies, tumors, and foreign bodies left in the pelvic cavity after operation may be exciting factors. Congestions due to the chronic impaction of feces also may be considered². Pelvic varicocele or varicocele of the broad ligament consisting of a more or less permanent dilatation of the veins of the pampiniform plexus may give rise to symptoms common to the fore-going disorders.

The more frequent infections are those due to the gonococcus, the streptococcus and staphylococcus, the colon bacillus, the tubercle bacillus and the micrococcus lanceolatus. Other organisms acting as causative agents are bacillus proteus, *B. pyocyaneus*, *B. aerogenes capsulatus* or *B. typhosus*.

Infections due to the gonococci occur more commonly in married

¹Kelly. H.: Pelvic Inflammatory Disease. Medical Gynecology 1909. Chap. 14, p. 317.

²Darnall. Wm R.: Pelvic Varicocele, Jour. Am. Med. Assn. 1914, August, LXIII, No 5, pp. 391-395.

women than in the unmarried, affect the young with greater severity, and spread in a characteristic manner. The classical symptoms, with a history of recent marriage to a man with a record of an antenuptial infection or of extra marital exposure, may confirm the diagnosis in the physician's own mind, but a positive laboratory finding will furnish irrefutable evidence as to the nature of the infecting agent.

The classification and pathology of these disorders, according to Crossen¹, is as follows: Originating in the external genito-urinary organs the infection extends by way of the uterine mucosa through the Fallopian tubes to the peritoneum and contiguous structures, producing gonorrheal abscesses in the tubes and ovaries, and pockets of pus limited by bands of adhesions in the pelvic cavity.

In the puerperal invasions of the staphylococcus and streptococcus, the advance is by way of the lymphatics through the endometrium to the connective tissue, or through the thrombosed sinuses of the puerperal uterus to infective thrombosis of the broad ligament veins.

If the infection enters through the upper part of the uterus it affects the ovarian veins in the upper part of the broad ligament. If from the lower part, the uterine veins are infected in the lower part of the broad ligament. From here, unless checked by nature's efforts it may extend centrally along the ovarian veins to the vena cava, or along the uterine veins to the internal iliac, the common iliac, and finally to the vena cava. In the common iliac the process may extend downward along the external iliac vein, producing external iliac thrombosis or milk leg. General pyemia may result, or infective thrombosis of the lung may occur from the lodgement of metastatic emboli.

Marvel² reports five cases of puerperal infection due to bacillus aerogenes capsulatus. Diagnosis is important because of the grave menace to life. Symptoms are characteristic; rapid pulse, extreme pallor of the vagina and other mucous surfaces, with temperature not in proportion to extreme prostration. On operation malodorous gas is released from the tissues. Cultures show the gas bacillus.

In mixed infections or in mixed disturbances resulting from intestinal perforation or ruptured vermiform appendix the colon bacillus is often found.

The process in any case may be acute or chronic. The former may be the direct result of gonorrhea, abortion, labor, or instrumentation.

¹Crossen, H. S.: *Pelvic Inflammation, Diagnosis and Treatment of Diseases of Women*, p. 691.

²Marvel, E.: *Puerperal Infections Due to Gas-Forming Bacilli*, *Am. Jour. Obst.*, New York, 1914, LXIX, 100-108.

Undiagnosed mild gonorrhea, incomplete "cures," crude methods of abortionist, the surgically "unclean" leper of an obstetrician who infects his patient by detaching the placenta with dirty finger nails, the trauma¹ due to unnecessary and unskilful instrumentation, all are responsible for a long train of pelvic disasters.

In the acute inflammations symptoms of chill, marked rigor, rise of temperature with vomiting and intense abdominal pain are so severe as to demand prompt attention. The abdomen is rigid, distended, tympanitic, the patient is lying on her back with her knees drawn up; respiration is costal and any effort involving a movement of the diaphragm is avoided. Scanty, high colored urine may be passed frequently, containing an excess of indican. The hippocratic expression is marked. If the inflammatory process is walled off by adhesions a localized peritonitis may result. This is likely to be obscured and the prognosis depends on early recognition and operation. The area of pain is usually low in the pelvis and not larger than the palm of the hand. If on the right side there may be some doubt as to whether one is dealing with ovarian disease or appendicitis.

Evidences of appendicitis should be looked for in young adults; puerperal infection, gonorrhea, salpingitis, ovaritis or pelvic abscess in married women; and walking typhoid with perforation in young and vigorous persons.

Several varieties of chronic peritonitis are recognized; adhesive, proliferative in which the peritoneum is thickened, cancerous, tuberculous and hemorrhagic. The large proportion give rise to no symptoms. Pain when present is usually greater during the pelvic congestion incident to menstruation. In more pronounced cases it is practically continuous, in others intermittent. Fever is usually though not always present when there is pus in the abdomen. In severe cases the temperature may be subnormal though it usually varies from a slight elevation to 105 F. In recent cases or in acute exacerbation of an old case a blood-count would show an increase in leukocytes from 8,000 to 19,000 or to 30,000 or more. Both leukocyte count and temperature are likely to be higher in puerperal streptococcus cases than in infections due to the gonococcus.

The recognition of the various pathological changes found in infections varying from a mild salpingitis to a diffuse peritonitis not only aids in diagnosis but also indicates in some measure the treatment which should be instituted.

In mild salpingitis the inflammation is slight. There is some

¹Benjamin, A. E.: Some Intra-Abdominal Complications following Laparotomies, *Jour. Am. Med. Assn.*, 1913, December, LXI, No. 23, p. 2045.

hardening and thickening of the wall accompanied by round-cell infiltration. A few of the fimbria are bound together. Both ends of the tube are open. In the more severe cases both ends of the tube are occluded. The tube is distorted and adherent to the ovary. Not much fluid is present.

In salpingitis with exudate there is a large amount of fluid, no pus and the organs are firmly bound together by adhesions. Pyosalpinx shows the tube distended with pus but none outside; exudate may or may not be present. Infection may localize in one or both ovaries.

Diffuse suppurative peritonitis well illustrates nature's attempt at conservation of infected tissues. Always in advance of the spreading infection is the extension of the fibrinous exudate before it, shutting off from the peritoneal cavity. The process may result in abscesses low in the pelvis which may be reached and evacuated from below or it may extend until all the pelvic organs are bound together in an irregular mass, pus lying in the spaces between and burrowing into the connective tissue. Old lesions are present.

Acute diffuse peritonitis spreads so rapidly that not much limiting exudate is formed, it quickly involves the general peritoneum and usually ends fatally. It may follow severe sepsis of labor or abortion.

Cellulitis or lymphangitis of connective tissue about the uterus is rarely due to the gonococcus alone but also to streptococcus, staphylococcus or colon bacillus. It is favored by deep laceration and may result in resolution, abscess or in general sepsis.

Septic thrombosis arises from the infection of normal thrombi filling the uterine sinus after labor and may constitute a severe and fatal puerperal sepsis. In the effort to limit the infective and destructive process to the sinus or vein, nature causes another thrombus to form proximal to the infective one, a process which may go on as long as each thrombus in turn becomes infected.

Blood cultures or cultures from spinal fluid may show the organism responsible for the trouble in puerperal cases¹. Microscopic examinations of the lochia are of value only when specimens are aseptically prepared. In acute gonorrhea the characteristic diplococcus is practically always found in moderately thin smears on glass made from pus expressed from the urethral, vulvovaginal or from the cervical glands. These from their anatomical position are the parts usually infected. Smears from vaginal discharges in the adult are practically worthless; first, because the gonococcus does not find in

¹Watkins, T. J.: Puerperal Infection, *Am. Jour. Obst.*, 1913, September, LXVIII No. 3, pp. 462-469.

the acid secretions of the vagina a suitable habitat, and, second, because the infinite variety of bacteria in the vagina flora render differential diagnosis difficult. Cervical specimens should be taken through a speculum after thoroughly cleansing the external os uteri. At least two films should be prepared that the Gram differential stain may be compared with the specimen stained with the Loeffler's alkaline methylene blue. Cultures may be grown on ascites agar or in freshly sterilized veal bouillon to which hydrocele fluid has been added.

Hauser¹ calls attention to the fact that the general or focal reaction to gonococcus vaccine is important in differential diagnosis of gynecological affections. He always found the reaction positive in recent gonorrheal cases with gonococci, and constantly negative when gonorrhea could be positively excluded. He found a positive focal reaction the chief criterion. Outside of typical groups the reaction was misleading in only 9.5 per cent of the total number of cases. The negative reaction does not exclude gonorrhea, as the reaction may have been hindered by mixed infection, or the dose may have been too small or the lesion too old to react. Though his experience with the vaccine therapy has been favorable, he warns that it is far from being absolutely harmless and should be applied only under constant medical control.

The Wassermann test aids in diagnosing obscure syphilitic pelvic lesions. A complement fixation test has recently been devised quite similar in principle to the Wassermann test in which a polyvalent gonococcus antigen is used with blood from the patient and the occurrence of hemolysis is noted. This is valuable in all latent cases, especially in cases of pregnant women in determining a cure in stages where micro-examinations are negative. Though much work is being done and many preliminary reports are being made the entire reliability of this test has not been fully established. Many feel that discrepancies in results are due to errors in technic and to variations in standards adopted by workers, for the test is a very delicate one and requires absolute thoroughness in preparation as well as in actual performance. The preparation of the antigen presents some difficulties. In women a positive reaction is probably not obtained unless there is at least some involvement of the cervix. The report by Thomas, Ivy and Birdsall² in Surgery. Gynecology and Obstet-

¹Hauser, H.: Value of Gonococcus Vaccine in Gynecology from Differential and Therapeutic Standpoints. *Archiv. fur Gynakol.*, Berlin; *Abst., Jour. Am. Med. Assn.*, 1913, October, LXI, No. 15, p. 1410.

²Thomas, B. A.; Ivy, R. M., and Birdsall, J. C.: Observations on the Gonococcus Complement—Fixation Test Employing Specific and Non-Specific Antigens, *Surg., Gynec. and Obst.*, 1914, September, XIX, No. 3, p. 390.

rics for September indicates the possible utility of this test.

In tuberculous process of the uterine adnexa tubercle bacilli are rarely found, though R. de Bovis¹ records positive findings in discharges from the uterus. He, however, lays particular stress on the fluctuation in the size of the tube due to transient congestions, the variation being from the size of an egg to that of an orange. The biologic tests may aid in determining the presence of this infection. General, local and focal reactions occur.

In the diagnosis of extra-uterine pregnancies and recent abortions a serodiagnosis test devised by Abderhalden is proving valuable in the hands of careful technicians.² This test is based on the consideration that when foreign proteins get into the blood, the body reacts by elaborating a ferment which causes their disintegration. The same reaction is believed to occur under the influence of certain peculiar protein substances, derived from the organism itself. As elements from the placenta pass into the maternal blood the serum acquired the power to digest placental tissue. Application of this principle³ is being made in diagnosis of syphilis and malignant growths, and in dementia praecox and other nervous disorders.⁴

Among others Ball⁵ tested the serum of fifty patients for evidence of malignancy. Six cases clinically malignant gave positive results. Of twenty-eight suspiciously malignant conditions twenty gave positive reaction which later was verified—eight, a negative reaction. Of fourteen clinically non-malignant, four which were pregnant were positive, the others negative.

Recent progress in laboratory diagnostic methods has been rapid. Until, however, uniform standards of technic are generally employed by laboratory workers, there will continue to be apparent discrepancies in results and confusion in their interpretation. Closer co-operation between the physician in the laboratory and the physician in general practice will result in proper preparation of specimens and in a scientific interpretation of findings. Finally, with the intelligent use of every available aid to diagnosis we may hope at length to see women, heretofore doomed to invalidism, arrive at the prime of womanhood in the full enjoyment of vigorous health.

¹Bovis, R. de: Diagnosis of Tuberculous Salpingitis, *Semin. Medicale, Paris*, 1913, September, XXXIII, No. 38, p. 445.

²Fauser, A.: Serodiagnosis by Abderhalden's Technic. *Deutsche. Med. Wchnschr.*, 1913, Feb. 13: Abst., *Jour. Am. Med. Assn.*, 1913, March, LX.

³Baelsack, F. W.: The Sero-Snzyme Test for Syphilis, *Jour. Am. Med. Assn.*, 1914, August, LXIII, No. 7, pp. 559-563.

⁴Fisher, J.: Abderhalden's Serodiagnosis of Mental Diseases, *Deutsche Med. Wchnschr.*, Berlin, 1913, XXXIX, No. 44.

⁵Ball, C. F.: Abderhalden's Serodiagnosis of Cancer, with a Tabulation of Results Obtained in Fifty Examinations, *Jour. Am. Med. Assn.*, 1914, February, LXII, No. 8, pp. 599-602.

WHOOPING COUGH.

WILL SHIMER, M.D.

There is no more striking contrast between popular opinion and scientific facts than that of the public attitude toward whooping cough.

This disease is usually considered to be a very disagreeable and trying experience for the parents of the patients but on the whole not very dangerous to the children.

In 1908 in the United States 1,406 children died of whooping cough, 5,781 from scarlet fever and 8,930 from diphtheria. This is a death rate of 11 per 100,000 almost half that of typhoid. On the average 312 children in Indiana die of whooping cough each year. Of these 94 per cent are under 5 years of age and 54 per cent are under 1 year of age. The children under 1 year of age constitute 60 per cent of children dying under 5 years of age.

Perhaps the indifferent attitude of the public is due to their feeling that the disease can neither be prevented nor alleviated by medical treatment. Up to the present time this has been true to some extent.

Whooping cough differs from diphtheria and the other diseases of children in that the attendance at schools does not seem to have much affect on the prevalence of the disease, the highest death rates occurring in the early summer months when most of the schools are not in session. Although whooping cough seems to favor the development of pneumonia the highest death rate occurs during the months when the pneumonia rate is lowest.

As in diphtheria so with whooping cough nothing much could be done for the prevention or cure until the causative agent could be recognized, isolated and cultured.

Affansieff in 1887 isolated from the bronchial secretions of 20 out of 49 whooping cough patients a streptobacillus, which grew on sugar agar at 30°C. This organism injected intratracheally into dogs and cats gave whooping cough-like reactions with lung complications.

Many influenza-like bacilli have been described by investigators as the cause of whooping cough. Czaplewski and Hensel found influenza-like bacilli and could by this means diagnose whooping cough before the disease could be recognized clinically. These findings have been confirmed by Spengler, Arnheim, Reyher, Jochman,

Krause and others. This organism contained polar bodies, was Gram negative, grew only on media containing hemoglobin and could be injected into animals without producing any symptoms.

In 1906 Bordet and Gengou isolated regularly from the bronchial secretions of whooping cough patients in the first week of the disease, a small, non-motile polar staining bacillus. They proved the specificity of this organism by the agglutination and complement fixation tests.

This bacillus has rounded ends, stains with carbol methylene blue ($\frac{1}{2}$ to 2 minutes without washing). The ends of the bacilli stain deeper than the central portions. This organism is not acid fast, does not stain with Grams, does not produce spores, has no flagella, is a strict aerobe and grows on blood agar, eg. rabbit dog and human bloods. On these medias after two days incubation at 37°C. small, scarcely visible colonies are to be seen. The growth is never very vigorous, but the bacilli will later grow on ordinary agar.

For ordinary laboratory animals the whooping cough bacilli are not pathogenic. It is only with massive doses that guinea pigs, rabbits and mice can be killed. Klimenko was able to produce a disease somewhat like the disease in humans in apes and young dogs.

Whooping cough bacilli can be cultivated from the sputum of the majority of whooping cough patients and are then differentiated by a high titered agglutinating serum. eg. 1 to 5,000 dilution.

Two theories have been advanced to explain the cough. The older one states that the cough is due to an endotoxin liberated by the *B. pertussis* which acts upon the nerve centers governing the respiratory apparatus. Bordet holds another view of the toxins origin of the cough, e. g., that the toxins liberated on the mucosa of the deeper respiratory tract is the cause of the cough.

F. B. Mallory believes that the cough is due to the mechanical effect of the bacilli which are found in large numbers between the cilia lining, the trachea and bronchi, but never in the air sacs. These bacilli interfere with the action of the cilia and furnish a continuous irritation which excites cough of a spasmodic type. Finally the coughing which is not able to remove the organism is followed by a violent intake of air, the whoop in broncho pneumonia is not due to the bacillus but to a secondary invader, the pneumococcus.

In addition to this mechanical effect there is also some toxine affect since there is: 1. a slight inflammatory reaction in the trachea; 2. Slight lymphocytosis and 3rd—compliment and agglutinations in the blood.

The use of vaccine for the prevention and cure of whooping cough

was first made with some success by Sill in 1913. He used very small doses of the stock vaccine which ranged from 25 to 100 million bacilli per dose. For curative treatment, doses of 75 to 600 million bacilli were used. Three doses were given daily or every third day.

Sill claims that the disease is prevented in many instances and that the disease is shortened from the usual 6 to 7 weeks to not more than 4 weeks.

We have used the whooping cough vaccine but cannot get the results of Sill using the small doses that he uses. Sill seems to have kept from using large doses on the theory that the symptoms of the disease are due to toxemia.

Dr. Parks of the New York City Research Laboratory has recommended the following procedure, which we have followed: Three injections given every other day beginning with 50 millions and doubling the last dose. Each time lay off three days giving antipyrene to control the temperature. If the symptoms are no better, or worse, give three more doses, the first dose to be double the last given and the second succeeding double the previous one. This procedure is repeated until the patient gets a good general and local reaction. We were able to give patients under one year one billion and patients over four years two billion bacilli per dose.

It is remarkable how well the vaccine controls the cough and vomiting, however, the beneficial effect of the vaccine rarely lasts for more than 36 to 48 hours.

The effect of the whooping cough vaccine is paradoxical. If whooping cough is a toxemia why does the patient immediately improve following the vaccination? If the vaccine is an immunity producing substance why does the effect last so short a time? In view of the fact that one attack of whooping cough makes one immune for life, why is the effect of the vaccine so transient?

Our conclusion then is that whooping cough vaccine in large doses pushed to the therapeutic limit is a valuable method of controlling the cough and vomiting and seems to shorten the length of the disease two or more weeks.

TYPHOID EPIDEMICS.

With the report on every positive Widal specimen we are sending out this card:

INDIANA STATE BOARD OF HEALTH.

Division of Pathology and Bacteriology.

Room 202, Gallup Block.

Day.....Month.....1915.

Patient's name.....

Occupation.....

Exact address.....

Date of earliest symptoms.....

Milk used by patient.....

Name of dairy.....

Water used by patient.....Well.....City.....

(Back of card.)

Have there been any previous cases of typhoid, influenza, gastric catarrh, gastritis, diarrhoea or neuresthenia in the patient's family within the past year or two?.....

Has the patient been away from home within the last 15 days?.....

If so, where?.....

How do you think your patient was infected with typhoid fever?.....

Physician's name.....

Address.....

City.....Town.....

(Enclosed you will find stamped envelope for returning this information.)

At first many of the reports gave well water or milk as the source of the infection. Further inquiry usually showed that the doctor had no data other than his own private opinion.

In a few instances the person sick was in a dairyman's family. Usually the case had not been reported to the local health officer and nothing had been done to prevent the spread of the infection through the milk. These cases were immediately reported to the local health officer and he was requested to make immediate investigation.

A great many cases were contact cases occurring in the same family. In one instance there was an appeal made to the State Board of Health after five members of a family were sick by contact infection.

The replies in some instances mention other previous cases so that an epidemic of typhoid came to our notice in this way.

This follow-up work has made the doctor investigate before making a careless reply that this or that was the source of the infection.

Following is a tabulation 58 of 98 cases:

TABLE 58.

Source of Typhoid Infections.

No.	Water.			Milk.		Typhoid, Influenza, or Gastritis.	Absent from home within last fifteen days.	Source of Infection.	County.
	Well.	City.	Spring.	Dairy.	Home.				
1	Yes.	River.	Yes.	Yes.	Yes.	No.	No.	?	Allen.
2	Yes.	?	No.	No.	?	No.	Yes.	Cases near	Boone.
3	No.	Yes.	No.	?	Yes.	No.	Yes.	?	Boone.
4	No.	No.	Yes.	?	?	No.	Yes.	Probably water.	Carroll.
5	No.	No.	Yes.	?	?	No.	No.	?	Carroll.
6	Yes.	No.	No.	No.	Yes.	No.	No.	?	Cass.
7	Yes.	No.	No.	No.	Yes.	No.	Yes.	?	Cass.
8	Yes.	No.	No.	Condensed milk.	?	No.	Yes.	?	Cass.
9	Yes.	No.	No.	Condensed milk.	?	No.	Yes.	?	Cass.
10	Yes.	No.	No.	Yes.	No.	No.	No.	?	Cass.
11	No.	Yes.	No.	Yes.	No.	Mother died of typhoid	No.	Well water.	Cass.
12	?	?	?	?	?	No.	No.	?	Clinton.
13	Yes.	No.	No.	No.	Yes.	No.	Yes.	?	Delaware.
14	No.	Yes.	No.	No.	Yes.	No.	Yes.	Lake Wawasee.	Delaware.
15	Yes.	No.	No.	Neighbor.	?	No.	No.	Milk and water.	Elkhart.
16	Yes.	No.	No.	Yes.	No.	No.	No.	Water or milk.	Elkhart.
17	Yes.	No.	No.	Condensed milk.	?	No.	No.	Water, rats, flies.	Fayette.
18	Yes.	No.	No.	No.	Yes.	No.	No.	Water.	Floyd.
19	Yes.	No.	No.	No.	Yes.	No.	No.	Water.	Grant.
20	Yes.	No.	No.	No.	Yes.	No.	No.	?	Hamilton.
21	Yes.	No.	No.	No.	Yes.	No.	Yes.	Water?	Hamilton.
22	Yes.	No.	No.	No.	Yes.	No.	No.	Water?	Hamilton.
23	Yes.	No.	No.	No.	Yes.	No.	Yes.	?	Hamilton.
24	Yes.	No.	No.	No.	Yes.	No.	No.	Water.	Henry.
25	Yes.	No.	No.	No.	Yes.	No.	No.	Well.	Henry.
26	Yes.	No.	No.	No.	Yes.	No.	No.	?	Howard.
27	Yes.	No.	No.	Yes.	No.	No.	No.	Water.	Jefferson.
28	Yes.	No.	No.	No.	No.	No.	No.	?	Jennings.
29	Yes.	No.	No.	No.	No.	No.	No.	?	Jennings.
30	No.	Yes.	No.	Grocery.	No.	No.	No.	?	Johnson.
31	Yes.	No.	No.	No.	Yes.	No.	No.	Water.	Knox.
32	Yes.	No.	No.	No.	No.	Father typhoid	No.	Father.	Kosciusko.
33	Yes.	No.	No.	Yes.	No.	No.	Yes.	?	LaPorte.
34	?	?	No.	No.	Yes.	No.	Yes.	?	Lawrence.
35	Yes.	No.	No.	Yes.	No.	Yes.	No.	?	Marion.
36	Yes.	No.	No.	Condensed milk.	?	No.	Yes.	Water.	Lawrence.
37	Yes.	No.	No.	?	?	No.	No.	Water.	Lawrence.
38	Yes.	No.	No.	Yes.	No.	?	No.	?	Marion.
39	No.	Yes.	No.	Yes.	No.	Typhoid	No.	?	Marion.
40	Yes.	No.	No.	No.	No.	No.	No.	?	Marion.
41	?	?	?	?	?	No.	Lake Wawasee	Lake Wawasee	Marion.

TABLE 59

Suspected Source of Infection.

Contact with typhoid patient.....	10 cases.
Well water.....	20 cases.
Cistern water.....	1 case.
River water.....	3 cases.
City water.....	1 case.
Lake Wawasee.....	3 cases.
Milk and food.....	2 cases.
Not known.....	58 cases.

TABLE 60.

Residence of Patients Fifteen Days Previous to Infection.

Away from home.....	33 cases.
At home.....	63 cases.
Lake Wawasee.....	2 cases.

TABLE 70.

Source of Infection—Condensed.

Well water.....	68 cases.
Cistern Water.....	6 cases.
City water.....	16 cases.
Spring water.....	2 cases.
River water.....	1 case.
Not given.....	5 cases.

TABLE 71.

Milk Supply.

Home or neighbors.....	46 cases.
Dairy.....	20 cases.
Creamery.....	2 cases.
Grocery.....	2 cases.
Condensed.....	5 cases.
Non-users of milk.....	23 cases.

TABLE 72.

*Typhoid, Dysentery or Gastric Trouble in Family
During Past Year.*

Typhoid in family.....	12 cases.
Dysentery in family.....	1 case.
Non-infected.....	85 cases.

EPIDEMIC OF TYPHOID FEVER AT VAWTER PARK, WAWASEE, IND.

On the morning of August 21st, it was reported to us that Mr. Otto Kipp had just died of typhoid fever and that two weeks previous to his illness, July 17-27th, he had been living at Vawter Park, Lake Wawasee, Ind.

The next day five other persons living in Indianapolis were reported to have typhoid and were probably infected at Vawter Park.

There were rumors of other cases at the time but we were not then able to verify them.

August 25th we visited Vawter Park in company with Dr. Burkett, the county health officer.

As practically the only common factor in all of these cases was the Vawter Park Hotel, we concentrated most of our investigation to that place.

The accompanying diagrams show the water supplies and sewage disposal and topography of this hotel.

The water for drinking purposes is taken from the outside well each day and placed in coolers in the pantry and corridors.

The lake water is pumped into the tank about 20 feet high and allowed to run to the kitchen and toilets by gravity. In the toilets the raw lake water is used for flushing the commodes and in the wash bowls. This same lake water is furnished in the pitchers in the guests rooms. In the kitchen are two taps, one for cold lake water and one for hot lake water and the same arrangement is found in the pantry.

The intake for the lake water is very close to the west end of the wharf or landing. Water was often pumped into the tank in the afternoon when there were many persons diving from the landing and swimming over the intake.

About the middle of June a domestic from Indianapolis started to work as a waitress at the Vawter Park Hotel. Besides waiting tables she also assisted in making the salads. Previous to leaving Indianapolis this woman had been feeling badly for three or four weeks and had had no appetite. An Indianapolis physician prescribed a tonic for her which seemed to improve her appetite for a couple of weeks, after coming to Vawter Park. About July 1st she began to feel badly again and to have night sweats. She thought that this trouble was due to bathing in the lake, which she often did, just to the right of the landing in the afternoon with the other girls who waited table.

Beginning with the 20th of July many of the girls waiting table began to have a diarrhoea and had to make frequent visits even during meal time, to the privy at the back of the hotel.

A careful tabulation of the twelve cases supposed to have been infected at Wawasee show that they were infected somewhere near July 25th. At least three of the cases ate only one meal there on that date.

There are other possible sources of infection which are the milk and ice cream, both of which are unpasteurized but no other persons outside of the hotel using them are known to have typhoid.

There are two cess pools at the back of the hotel both of which are inadequate to take care of the work demanded of them. On the day of our visit the cess pool for the kitchen and mens' toilet was running over and there were only five or six people in the hotel. The overflow is supposed to run west away from the lake. I have been told that there is a sewer open close to the wharf or boat landing, this, however, was denied by the manager of the hotel.

We took samples of the water from the raw lake water tap, the two wells, and samples of milk and ice cream which gave the following results:

1. Lake water, inside tap, Vawter Park Hotel, no evidence of contamination.
2. Inside well, Vawter Park Hotel, some evidence of contamination.
3. Outside well, Vawter Park Hotel, considerable evidence of contamination.
4. Ice used by Vawter Park Hotel, considerable evidence of contamination.
5. Ice cream, Vawter Park Hotel, contains great numbers of colon bacilli.
6. Milk used by Vawter Park Hotel, contains great numbers of colon bacilli.

One is surprised that the lake water shows no evidence of contamination, yet this is to be expected as the weather was cool at the time of our visit and no one was bathing in the lake.

Blood taken for Widal from the help at the Vawter Park Hotel gave the following result:

Mrs. R. C. N.....	Positive.
L. B.....	"
W. R. McG.....	"
C. N.....	"

Later a specimen was taken from K. F. the domestic supposed to have been the original source of infection and she also gave a positive Widal. We were unable to find typhoid bacilli in the feces of the proprietor and one of the other persons with a positive Widal. We were not able to obtain specimens of feces from any of the others.

A probable explanation of the origin of this epidemic is as follows: K. F. was suffering from a very mild infection of typhoid which tended to exacerbation and relapses, one of which occurred about July 12th. At this time it is possible she infected the salads from which a few of the domestics and guests acquired a typhoid diarrhoea. These people then bathing close to the raw water intake infected the water for toilet purposes e. g. bathing, brushing the teeth, etc., and for washing the dishes and rinsing the drinking glasses.

After the preliminary examination on August 25th we ordered all of the cold water taps closed and not to be opened until some means were employed for sterilizing the water, and the following recommendations were made to the manager of the hotel to prevent further danger of typhoid infections:

1. Use some method of chlorinating the lake water before using.
2. Use only pasteurized milk and cream and ice cream.
3. At the beginning of the season have all of your kitchen help tested out for a positive Widal.
4. Have frequent tests made of the well water to determine if possible how the colon bacilli get into them.
5. Construct a septic tank that will take care of the sewage when you have the maximin amount to do.
6. The treatment of the water and the septic tank of course would have to be arranged by some competent engineer.

In our report on the typhoid epidemic at Vawter Park Hotel, Lake Wawasee, Ind., we expressed the opinion that most of the infection occurred Sunday, July 25, 1915.

The following is a tabulation of the cases as to time of stay at the hotel and the time at which the disease first appeared.

Our first impression now seems to be substantiated since only persons who ate one or more meals at the Vawter Park Hotel on July 25, 1915, have developed typhoid.

TABLE 57.

Cases of Typhoid Reported from the Vawter Park Hotel Epidemic.

Name.	Time at Vawter Park Hotel.	Took Sick.	Place.	Died.
Mrs. Chas. C.	3 meals, July 24th-25th	Aug. 13th	Fort Wayne	Sept. 3
Mr. J. H. A.	July 10th-August 15th	Aug. 15th	Goshen	Sept. 6.
Mr. G. B. F.	Noon dinner, July 25th	Aug. 15th	North Manchester	
Marie P.	July 3rd-August 20th	Aug. 13th	Indianapolis	
Flora F.	July 23rd-July 26th	Aug. 9th	Indianapolis	
Orlando F.	July 23rd-July 26th	Aug. 9th	Indianapolis	
Mrs. S.	Noon dinner, July 25th	Aug. 10th	Indianapolis	
Mr. S.	Noon dinner, July 25th	Aug. 10th	Indianapolis	
Mrs. F. C. M.	July 19th-27th	Aug. 8th	Hinsdale, Ill.	
Mr. A. M.	July 19th-27th	Aug. 22nd	Hinsdale, Ill.	
F. McD.	July 19th-27th	Aug. 14th	Hinsdale, Ill.	
K. F.	July 6th-Aug. 19th	Aug. 12th	Indianapolis	
Mrs. W.	July 22nd-25th (diarrhoea)	Aug. 10th	Indianapolis	
Mr. A. K.	July 17th-27th	Aug. 5th	Indianapolis	Aug. 20.

PTOMAIN POISONING.

WILL SHIMER, M. D.

A ptomain poison is any one of the active inanimate septic or toxic substances resulting from processes of decomposition and disintegration of albuminous materials. (As ptomains are chiefly developed during putrefaction they have been termed putrefactive alkaloids.) The kind of ptomain produced depends somewhat upon the stage of putrefaction as ptomains are transition products in the process of putrefaction. Thus we see that ptomains originate as the split products of the albumin molecule in the digestion of proteids. There is nothing specific about production by bacteria. It is now fairly certain that somewhat similar toxic substances are produced in the intestines of man during proteid digestion.

If typhoid bacilli are grown in ordinary broth two sorts of toxic substances are produced, one which is free in the broth as the result of proteid digestion by the bacteria and the other in the body of the typhoid bacilli. This last named toxic substance gives rise to typhoid symptoms when taken into the human body.

Bacteriological investigations of many epidemics of ptomain or food poisoning show that they are due to infection with a number of different varieties of bacteria practically all of which belong to the paratyphoid group of organisms.

In a very large percentage of cases the infection originated from eating meat or meat products containing paratyphoid bacilli.

Cholera and typhoid bacilli are bacteria whose characteristics are well fixed in their pathogenicity while the paratyphoid bacilli are not and may exist in a somewhat saprophytic condition outside the body of men and animals. Paratyphoid bacilli are pathogenic for animals as well as human beings and are present as mere saprophytes in mice, rats, etc.

VARIETIES OF PARATYPHOID FEVER.

1. Typical form resembles typhoid; duration 17 days; mortality 1 to 3 per cent.

2. Gastroenteric form or cholera nostra. The symptoms are caused by eating food containing large numbers of paratyphoid bacilli and their toxins. The incubation period varies from 2 to 48 hours

after eating contaminated food. However, the incubation period is usually from 10 to 18 hours. The mortality is from 3 to 15 per cent.

This latter form of infection is due to eating meat infected with the paratyphoid bacilli which was insufficiently cooked or if well cooked was later infected with these organisms. The infected meat comes from sick animals, eg. cholera hogs, septicaemia of cattle, naval infection of calves, enteritis of cows and calves, metritis and mastitis of cows, peritonitis, pericarditis, osteomyelitis and suppurative pleuritis of cows, hogs, sheep and often of chickens, ducks, geese or turkeys.

Diagnosis of meat poisoning is made by bacteriological examination of stool, blood and urine, or agglutination tests of the blood. If any of the suspected food can be obtained it should be examined bacteriologically for the paratyphoid organisms.

Prevention. The same measures must be taken with regard to human contact, filtration of water, sanitary disposal of feces and urine and pasteurization of milk as in typhoid. Careful slaughter house inspection, antimortem and postmortems, careful regulation of the preparation of all ground or prepared meats are all necessary. Cleanliness must be observed in the preparation of all meats and careful refrigeration must be imposed.

The eating of ground meats or salads containing meat products is a very questionable practice during the summer months.

VACATION TYPHOID.

WILL SHIMER, M. D.

As the various sources of typhoid infection in cities are eliminated by pure water, pasteurization of milk and improvement in personal hygiene, vacation typhoid becomes more and more prominent.

Most summer resorts at best are only temporary or seasonal. The homes and hotels used by the wealthiest people have only very primitive sanitary accommodations. The lake resorts in particular are in no municipal or town corporation and have no sanitary supervision except that given by the County Health Officer who has usually had no experience with sanitation of towns.

The source of help for the hotels is a various one, the help coming to the hotel for all sorts of reasons since the jobs under the very best conditions can only be temporary. In not a few instances they come in the hope of getting a little breathing spell on the lake. Others come on account of being in a bad physical condition with the hope of improving their health. Among women this poor physical condition may be due to tuberculosis or a mild infection of typhoid. These women may even be syphilitic as they come mostly from homes of the very poorest of our large cities.

The method of sewage disposal at the lakes is very difficult. There are no streams into which the sewage may flow and it cannot be run into the lake for that is the source of the water supply.

Because seasons are short and bad ones are almost as frequent as good ones, the owners of the hotels cannot afford to spend enough money for constructing adequate septic tanks.

The milk and ice cream supplies of these resorts are usually dangerous. Because of the seasonal demands for their products the dairy-men and ice cream makers cannot afford to go to the expense of making a safe product.

Persons from our cities visiting the lake resorts are usually of the well to do class who use only safe water and pasteurized milk in their homes so that they are susceptible to the least bit of typhoid infection in water, milk or other food.

The problem of unsanitary summer resorts may be met in several ways:

1. Persons who have not had typhoid should be vaccinated before going.
2. Every person before going to a summer resort should find out

either from the proprietor of the hotel or the State Board of Health just what the sanitary conditions are.

3. Every person conducting a summer hotel or boarding house should obtain a license of the State Board of Health, the fee for which should be large enough to cover the cost of a thorough sanitary survey of that hotel or boarding house.

People are demanding that the City Boards of Health protect them from sickness in their homes and at their work but are only just now beginning to realize that State health authorities are not protecting them adequately in their summer recreations.

As offensive measures become more and more successful the defensive measures must be made more and more nearly perfect. Where typhoid is endemic most people have the disease in a very mild form during childhood, so that if all the members of such a community are exposed to a severe milk or water infection not more than 10 per cent of the people will develop typical typhoid. Where typhoid is introduced for the first time into any given community a large majority of the members of that community will have a typical attack.

The Widal test should be made on the blood of every suspected case of typhoid to definitely determine whether it is typhoid or not and that it is not tuberculosis, paratyphoid or some other acute fever. It should be remembered that an absolutely accurate diagnosis cannot be made in all cases without the Widal.

A FEW DIFFERENTIAL BLOOD COUNTS.

ADA E. SCHWEITZER, M. D.

Within the last year considerable improvement has been noticed in the preparation of blood for counts.

Very few slides have dried together and a large number of the films are reasonably thin. Since the laboratory has adopted the use of slides for these preparations there seems to have been some difficulty in avoiding the use of too much pressure in spreading the blood. A few slides have been received which contain practically no blood cells.

However carefully prepared a single specimen cannot be considered an index to the condition of the patient as variations in the actual and relative number of cells are likely to occur in many cases. One specimen may present a pathological picture, a second specimen taken at a different hour of the day or on some other day may show practically no pathological changes. Again the age of the patient must be considered. A leucocytosis which would be pathological in an adult might in a child be merely physiological. A differential count should be only a part of a general examination of the blood as to percent of hemoglobin, actual number of red and white cells, etc. A relative increase in normal cells together with the presence of pathological cells have been noted in this study. One case diagnosed malaria gave polymorphonuclear neutrophile count of 87 per cent another 82 per cent, lymphocytes 13. This followed tonsillitis and septicemia was suspected. A specimen from a female aged 62 years, ill 2 years with suspected tuberculosis, shows polymorphonuclear neutrophiles 82 per cent. In a specimen showing 79 per cent another showing 84 per cent no history is given. One male aged 52, having general glandular enlargement for four months and diagnosed as either tuberculosis, leucocythemia or Hodgkin's disease gave the following count: Polymorphonuclear neutrophiles 91 per cent; lymphocytes 4 per cent; myelocytes 5 per cent. A specimen from another male, no history, showed the same percentage of polymorphonuclear neutrophiles. There was a general leucocytosis in this case. A percentage of 93 was found in a case following reported labor or six hours with no uterine trouble. In another puerperal case in which temperature rose 15 days after parturition, with complaint of general pains the percentage was 90.

Relative lymphocytosis was observed in several instances

Anaemia was the usual diagnosis though in some instances the form was indicated. A blood specimen from a male aged 30 having jaundice following malaria showed polymorphonuclear neutrophils 47 per cent; lymphocytes 43 per cent; eosinophiles 7 per cent; large mononuclears 1 per cent; transitional cells 2 per cent; with granular basophilic degeneration of erythrocytes. In one male of 19 with cerebro-spinal meningitis the blood showed marked leucopenia and a lymphocyte count of 65 per cent. Blood specimens from 5 females first aged 11, lymphocytes 52 per cent; second married and diagnosed anaemia, 7 per cent; third, aged 33, lymphocytes 45 per cent; and fourth, aged 26, percentage 46; fifth, aged 55, percentage 49 per cent had no accompanying data. Specimen from female child aged 4 diagnosis acute tuberculosis showed 76 per cent lymphocytes, nucleated red cells were found in severe anaemias, with poikilocytosis and anisocytosis, polychromatophilia and granular basophilic degeneration. The percentage of polymorphonuclear neutrophils was 49, 58, 59, 63, 78 and the corresponding lymphocyte percentage 47, 32, 34, 37 and 20. Four of these were diagnosed severe or pernicious anaemia. Four were females the ages ranging from 34 to 63 years. Blood from a laboring man aged 48, unable to work for 6 months gave 65 per cent lymphocytes. The following blood count was made from a male aged 63 diagnosed pernicious anaemia, polymorphonuclear neutrophils 10 per cent, lymphocytes 90 per cent. There were many poikilocytes, crenated erythrocytes and nucleated red cells.

Two per cent myelocytes were found in the blood from a female aged 41 and married. Poikilocytes and nucleated red cells were present; 2 per cent of myelocytes were present in the blood of female aged 60, with diagnosis of possible leukemia or tuberculosis; while a case of spleenomedullary leukemia gave myelocyte count of 57 per cent a large majority of which were neutrophilic.

The foregoing report shows that in only a few of the cases from which specimens were sent is a count of great value as an aid to positive diagnosis. In many cases the value of these counts is negative and aids in eliminating suspected disorders. For the future with greater care in the preparation of blood films and the reporting of essential facts in case histories, some valuable analysis may yet be made.

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INDIANA STATE BOARD OF HEALTH

TENTH ANNUAL REPORT

OF THE

Chemical Division

OF THE

Laboratory of Hygiene

FOR THE

YEAR ENDING SEPTEMBER 30, 1915.

FORT WAYNE
FORT WAYNE PRINTING CO., CONTRACTORS FOR STATE PRINTING AND BINDING
1916

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TENTH ANNUAL REPORT OF THE CHEMICAL DEPARTMENT OF THE LABORATORY OF HYGIENE.

H. E. BARNARD, Ph.D.

This, the tenth annual report of the Chemical Department of the Laboratory of Hygiene will, like earlier reports, tabulate the work of the year that it may be available for reference and information. It is also appropriate briefly to review the progress made in a decade. The department was opened on July 1, 1905, without laboratories, without an organization, with two basement rooms in the State House and a small appropriation set aside by the State Board of Health.

In 1907, after nearly two years of pioneering involving the analysis of thousands of samples of foods and drugs and the disclosure of a most extraordinary state of fraud and adulteration, the legislature gave us our excellent Pure Food Law and \$15,000 a year for its enforcement. This sum was in addition to the regular appropriation for the Laboratory of Hygiene, and with these funds we were able to develop our organization of chemists and inspectors. In 1909 an additional \$5,000 was given us for the support of a Water and Sewage Laboratory. This same legislature passed the Sanitary Food Law, the first law of its kind ever enacted in this country and a law which has since been a model for nearly every other state in the Union. At this session of the Legislature, the Stream Pollution Law, under which many orders have been issued by the Board, was enacted. In 1911 we were given \$5,000 additional appropriation for food and drug work, making our appropriation \$25,000 a year. This Legislature also passed the Cold Storage Law, again the first law of its kind to be enacted in the country and now the model law of a dozen states. Our Renovated Butter Law was passed by the same Legislature and, as well, a Weights and Measures Law which gave the department the control of the weights and measures of the State, although it did not provide any appropriation for the enforcement of the law. In 1913 we were given \$5,000 per year for carrying on the work of the Weights and Measures Department, and the Pure Food Law was further strengthened by amendment. Since that time we have had no additional funds granted us, but during the ten years our appropriation

has grown from a part of \$15,000 per year to \$30,000 per year, and our force from two men to our present extensive organization which today consists of eleven chemists, six inspectors, two clerks, a janitor and a commissioner. The food control constantly uses two men, the drug laboratory two men, the water laboratory two men; while our sanitary surveys are this year using five additional men.

During the ten years we have analyzed 29,743 samples of foods and drugs either collected by the inspectors or sent in by physicians or interested parties for examination. Every year the percentage of adulteration is decreased. In the Water Laboratory 10,601 samples of water have been analyzed. These 40,000 analyses have been made free of all charges for the people of Indiana.

Every year the work is increasing. Our present appropriation is too small to enable us properly to enforce the many and varied laws which have been given to our charge. While our food and drug control has been extraordinarily successful, so successful indeed that the Indiana market is probably freer from food fraud and drug sophistication than the markets of any other State, we have not yet, nor shall we ever, reach the point where supervisory control can be withdrawn. We have proven the honesty of the vast majority of our merchants and manufacturers, but a police organization must always be maintained to regulate the recalcitrant one per cent.

Perhaps the most important phase of our work has been the development of the sanitary control of food factories and distributing plants. We began our work in advance of other States and it is probable that we have gone farther than any other toward securing for our people a clean and sanitary food supply. We have unsolved problems yet before us. Our milk supply is none too good; our meat supply, save for that protected by Federal Inspection, is still uninspected, and in too many instances is diseased. Hundreds of thousands of wells are furnishing polluted water and in many instances are still used as sewers. We are, however, making progress and minor sewage disposal plants are being installed in all parts of the State.

During the decade we have handled many knotty problems. When we first began the study of the purity of the water of Lake Michigan, every city on the lake was drinking grossly polluted water. At the present time all the Lake Michigan supplies are chemically treated before use. We have completed sanitary surveys of the Ohio River, Wabash River and White River, studying the quality of the water in the case of the White and Wabash Rivers from the source to the mouth and the Ohio from Cincinnati to Evansville. In our work at Vincennes last year we made the most comprehensive sanitary

survey yet undertaken in an American city. Similar work was carried on this season at Logansport and Noblesville.

In the Courts our work has met with unusual and indeed, extraordinary success. It is a most uncommon thing to have the judgment of our chemists and inspectors reversed. We have had several thousand cases before the Courts and in very few instances have we been defeated. In but one instance has the Supreme Court reversed us and in that case solely because by reason of a palpable defect in law which has since been remedied. Several Supreme Court rulings have established new precedents for food control work. The State Board of Health has defended the most bitter and expensive suit ever brought against State authorities. The famous benzoate of soda case filed in 1908 to enjoin the State Board of Health from enforcing the food law was bitterly contested. The decision handed down by Judge Anderson of the United States District Court supported every contention of the State and established beyond question the authority of the State Board of Health to exercise its discretion in protecting the health of the consumer. A similar decision in the same case was handed down by the United States Circuit Court of Appeals. It is a source of gratification to us to know that with the growth of the laboratory chemists trained in our departments have left the services of the State to seek other and better positions in all parts of the country.

Indeed our organization has been a training school for chemists and sanitarians. One of our men is with the State Board of Health of Iowa; another holds a responsible position with the United States Public Health Service; another is associated with a great drug house of E. Merck and Company. Two others occupy splendid positions in the control laboratories of Sears-Roebuck and Company. Another is at the head of the chemical and manufacturing department of one of our large drug houses. Another is one of the most brilliant industrial chemists of the country.

It is unfortunate perhaps that the State cannot keep the men it has trained. It is unfortunate that the rewards for public service are not commensurate with those offered in the industries. And yet, every man who has worked with us and under us, and who has gone out has perhaps carried with him something of the spirit which has made our work successful, and wherever he is, is a strong force for better living.

I can see much work for the future. We must have more legislation. We must control better than now, the milk and meat supply. We must close private wells. We must compel a careful examination of all workers with the food supply. It is now a crime for a diseased

person to handle food. There is no way by which the crime may be checked or the offender brought to task. The way must be devised. This I believe, is the largest problem.

The Weights and Measures control a feature of our work which has no relation perhaps to the health of the people, but which is immensely important as an economic question, is far from adequate. We have deputy inspectors in some twenty-five cities and counties. Every city and every county must be provided with an efficient weights and measures organization.

In much of our inspection work we have had splendid support from the local health officials. Unfortunately this support has been limited to a comparatively few counties and cities. Too many health officers, although they are deputy inspectors, sworn to the enforcement of the food, drug and sanitary laws, have little time and less training to bring to such work. Eventually trained health officers throughout the State will take up the work where the State inspectors leave off.

Much of the success of our work has been due to the splendid support given it by the press of the State. Advance along sanitary lines and a better knowledge of foods and nutrition, a more intelligent use of drugs and medicines comes only after food education. Our most efficient instructors have been the newspapers who day after day, intelligently, without criticism, and always with real interest, have preached the gospel of pure foods, standard drugs, potable water and sanitation.

THE STAFF.

There has been no change in the personnel of the staff of the department during the last year. H. E. Bishop has continued his work as head of the Food Laboratory, and in addition to the routine work of examining inspector's samples, is carrying on investigations which may be helpful in the solution of the larger problems of a well regulated food supply.

William D. McAbee as head of the Drug Laboratory has, during the year, added to the already long list of fraudulent preparations which are sold as cure-alls, fat reducers and flesh builders, has also checked up the work of the pharmacists and in many cases has been of material assistance to physicians in studying the character of the drugs they employ.

John C. Diggs, as head of the Water Laboratory, has had charge of a number of important sanitary surveys, and has rendered material assistance to the operators of water supplies throughout the

State. His special reports may be studied with profit by health officers and engineers.

G. Cullen Thomas, Gail Miers Stapp, Albert R. Tucker, Floyd Huff and Arthur Lockhart, as assistant chemists have given excellent service in their several departments. Mr. Thomas carried on the Logansport survey and associated with him were W. T. Leamon, Glenn Edgington and Arthur Lockhart, undergraduate assistants who without charge rendered valuable service.

Albert R. Tucker carried on the Noblesville survey with the assistance of Hilton U. Brown, Jr., and Edwin H. Robison.

The clerical staff remains unchanged.

The field inspection force, consisting of A. W. Bruner, Frank W. Tucker, Bert W. Cohn, John T. Willett, C. L. Hutchens and Richard White, remains unchanged. Inspector Bruner has made a special study of canning factories. Inspector Willett has continued his supervisory control of the enforcement of the Weights and Measures Law. B. W. Cohn has made an extensive investigation of the weights and measures used by pharmacists and elsewhere presents a most interesting report of his findings.

RESULTS OF ANALYSES OF FOOD SAMPLES.

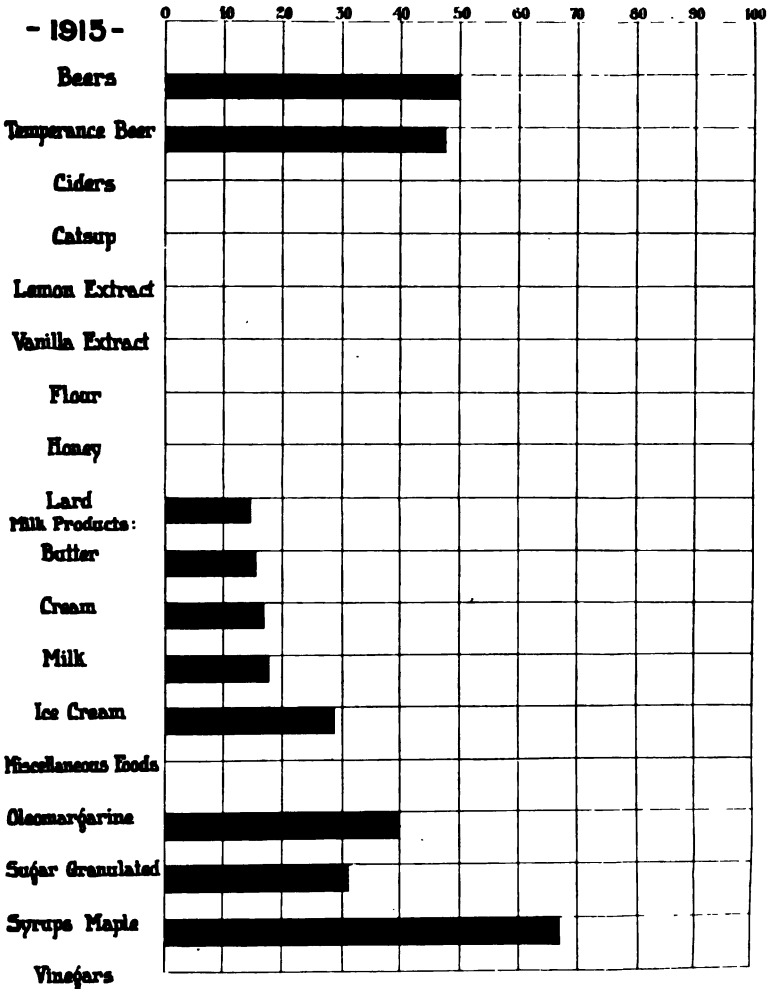
During the year the food laboratory analyzed 652 samples of food, for the most part submitted for analysis by health officers or persons interested in the quality of their food supply. Of the samples examined 481 were reported as legal, that is, free from adulteration or bearing proper labels. One hundred and seventy-one samples were illegal, in most cases because of the use of an improper label, such as a temperance beer label on a straight beer, or a cider vinegar label on an imitation product.

Twenty-two of the 46 illegal milks were so listed because they contained visible dirt. The percentage of adulteration, 26.2, does not therefore in any real sense represent the amount of adulterated food offered for sale. As pointed out, many illegal samples are not adulterated and since only products suspected of sophistication or misbranding are submitted to the laboratories, we are safe in assuming that the great bulk of our food supply is honestly made and honestly labeled. Special reference to the various forms of food adulteration and misbranding found in the different classes of food examined will be made under the discussion of such foods in the tables following:

RESULTS OF ANALYSES OF FOOD SAMPLES FOR THE YEAR OCTOBER,
1914, TO OCTOBER, 1915.

Articles Examined.	Legal.	Illegal.	Total.	Per Cent. Adult-erated.
Beverages—				
Beers.....	6	.....	6	
Beers, Temperance.....	18	18	36	50.0
Ciders.....	12	11	23	47.8
Catsup.....	3	.....	3	
Extracts—				
Lemon.....	2	.....	2	
Vanilla.....	4	.....	4	
Flour.....	5	.....	5	
Honey.....	7	.....	7	
Lard.....	4	.....	4	
Meats—				
Bologna sausage.....	5	.....	5	
Milk products—				
Butter.....	17	3	20	15.0
Condensed milk.....	6	.....	6	
Cream.....	22	4	26	15.4
Milk.....	231	46	277	16.6
Ice cream.....	28	6	34	17.6
Breast milk.....	14	.....	14	
Miscellaneous foods.....	31	13	44	29.5
Foods examined for poison.....	16	.....	16	
Oleomargarine.....	4	.....	4	
Sugar, granulated.....	3	2	5	40.0
Syrups, maple.....	13	6	19	31.5
Tomato pulp.....	2	.....	2	
Vinegars—				
Cider.....	17	37	54	68.5
Miscellaneous.....	11	25	36	69.4
Totals.....	481	171	652	26.2

PERCENTAGE of ADULTERATION of FOODS ANALYZED in INDIANA



REPORT FROM THE FOOD LABORATORY.

DAIRY PRODUCTS.

MILK.

Of the 277 samples of milk analyzed during the year 231 were legal and 46 or 16.6 per cent were illegal. Twenty contained less than the required 3.25 per cent of butter fat. Twenty-two contained visible dirt, that is, dirt in such quantity that it could readily be seen with the eye. Three convictions were obtained where added water was found in the milk supply. Four dealers selling milk below standard or skimmed milk were prosecuted on that charge and six dairy-men were convicted of selling dirty milk.

Better conditions at the dairy, and improved methods of handling the city milk, has resulted in a cleaner milk supply. In 1911, 28 per cent of all milk samples contained visible dirt; in 1912, 20 per cent, in 1913, 19.5 per cent and this last year the percentage has dropped to 8 per cent.

MILKS—ILLEGAL.

Laboratory No.	Manufacturer or Dealer.	Where Collected.	Per Cent of Fat.	Remarks.
29176	L. J. Drake.....	Southport.....	2.2	Low in butter fat.
29178	Sent in from.....	Marion.....		Visible dirt present.
29233	J. Owens.....	Columbus.....	2.6	Low in butter fat.
29240	Sent in from.....	Anderson.....		Formaldehyde present.
29241	Sent in from.....	Anderson.....		Formaldehyde present.
29310	William Davis.....	Tell City.....	2.8	Low in butter fat.
29319	J. W. Daum.....	Connersville.....	4.0	Visible dirt present.
29320	Bell Ice Cream Co.....	Connersville.....	5.2	Visible dirt present.
29542	Mahan & Mitchell.....	Elwood.....	5.0	Visible dirt present.
29564	Lilly & Mahoney.....	Alexandria.....	5.0	Visible dirt present.
29565	John Heyerly.....	Marion.....		Visible dirt present.
29569	Mr. Quick.....	Columbus.....	3.0	Low in butter fat.
29610	Pure Milk Co.....	Terre Haute.....	3.9	Visible dirt present.
29612	Keiser Bros.....	Terre Haute.....	2.8	Low in butter fat.
29614	Fell Bros.....	Terre Haute.....	2.6	Low in butter fat.
29615	J. Fry & Son.....	Terre Haute.....	2.8	Low in butter fat.
29617	M. C. Anderson.....	Terre Haute.....	3.4	Visible dirt present.
29618	Henry Stoffers.....	Terre Haute.....	3.6	Visible dirt present.
29619	Mrs. Light.....	Terre Haute.....	3.0	Low in fat; visible dirt.
29621	Mrs. Duncan.....	Terre Haute.....	2.8	Low in butter fat.
29622	Chas. Hemming.....	Terre Haute.....	4.2	Visible dirt present.
29623	John Courtren.....	Terre Haute.....	4.9	Visible dirt present.
29634	James Garbin.....	Terre Haute.....	3.2	Low in butter fat.
29638	Joseph Beach.....	Terre Haute.....	3.0	Low in fat and solids not fat.
29676	Sent in from.....	Dublin.....	1.0	Low in butter fat.
29742	Sent in from.....	Terre Haute.....	6.1	Visible dirt present.
29771	J. W. Frisz.....	Terre Haute.....	2.6	Low in fat; visible dirt present.
29772	L. F. Shively.....	Terre Haute.....	3.9	Very much visible dirt present.
29773	Basel & Walters.....	Terre Haute.....	3.5	Visible dirt present.
29827	Sent in from.....	Terre Haute.....	6.1	Visible dirt present.

MILKS—ILLEGAL—Continued.

Laboratory No.	Manufacturer or Dealer.	Where Collected.	Per Cent or Fat.	Remarks.
29882	Sent in from.....	Indianapolis.....	3.15	Low in fat and solids not fat.
29945	Sent in from.....	Terre Haute.....	5.0	Visible dirt present.
29889	S. Thomas.....	LaPorte.....	3.1	Low in butter fat.
29884	Frank Lenick.....	LaPorte.....	3.2	Low in butter fat.
29904	Mrs. R. L. Bryant.....	New Albany.....	2.0	Low in butter fat.
30011	C. L. Anderson.....	Castleton.....	3.2	Low in butter fat.
30048	John Wuenker.....	Richmond.....	3.0	Low in butter fat.
30053	Shephard & Ryan.....	Richmond.....	3.0	Low in butter fat and solids not fat.
30071	Sent in from.....	Terre Haute.....	2.8	Low in butter fat.
30084	Robert James.....	Shelbyville.....	4.7	Visible dirt present.
30085	Charles Towns.....	Shelbyville.....	4.8	Visible dirt present.
30126	Sent in from.....	Marion.....	.....	Contained larvae of fly.
30137	Will Skelley.....	Marion.....	5.0	Visible dirt present.
30138	M. P. Emley.....	Marion.....	3.5	Visible dirt present.
30139	R. T. Koldyke.....	Marion.....	3.0	Low in butter fat.
30141	Mr. Sohn.....	Marion.....	3.8	Visible dirt present.

CONDENSED MILK

But few samples of condensed milks have been analyzed and then only in response to requests from interested parties. Condensed and evaporated milks are almost without exception carefully made to conform to standards of composition set by the Federal food authorities.

CONDENSED MILK—LEGAL.

Laboratory No.	Manufacturer or Retailer.	Total Solids.	Butter fat.	Total Ash.	Proteids.
29300	Frank Wright, Marion.....	25.48	7.62		
29665	Block & Co., Indianapolis.....	27.5	8.25	1.45	6.6
29666	Van Camps Condensed Milk Co., Shelbyville.....	25.8	7.9	1.52	6.6
29743	Indiana Condensed Milk Co., Sheri- dan.....	25.74			
29744	Indiana Condensed Milk Co., Sheri- dan.....	25.80			
29745	Indiana Condensed Milk Co., Sheri- dan.....	25.76			

BREAST MILK.

Although the analysis of breast milk is not contemplated as any part of the enforcement of the Pure Food Law, the analysis of such milks is of great value to the public health. We submit therefore the data obtained in the examination of 14 samples, in every instance submitted by physicians. The great variation in fat and protein content is interesting.

BREAST MILK.

Laboratory No.	Sent in by	Per Cent. of Fat.	Per Cent. of Protein. N X 6.25
29114	Dr. J. A. Rawley, Brazil	.82	1.85
29174	Dr. Virgil Abel, Vallonia	3.6	
29249	R. S. McCord, New St. Bernice	1.5	1.19
29386	G. L. Skillman, Indianapolis	1.77	1.29
29414	Dr. Virgil Abel, Vallonia	1.76	.94
29516	W. C. Austin, Milroy	1.9	1.57
29558	Dr. L. Worsham, Evansville	2.8	1.33
29574	Mrs. W. M. Hammond, Indianapolis	.97	1.05
29607	Mrs. W. E. Tinney, Indianapolis	5.4	
29624	Dr. H. B. Cox, Morristown	3.6	1.14
29806	Dr. Flske, Indianapolis	4.3	6.6*
30094	F. C. Cordeu, Indianapolis	4.95	
30124	Dr. J. W. Canady, Indianapolis	6.3	
30147	Dr. E. W. Layman, Terre Haute	2.7	.945

*Sugar.

BUTTER.

Of the 20 samples of butter analyzed 17 were legal and 3 or 15 per cent illegal. Most of the samples of butter analyzed were sent in by suspicious customers, but in nearly every case the only abnormal factor was the off flavor. One sample contained 37 per cent of moisture. This was a so-called merged butter. Two samples proved to be oleomargarine.

BUTTER—LEGAL.

Laboratory No.	Retailer.	Collected.	Butyro 40° C.	Reichert-Meissl Number.	Moisture.
29063	H. E. Dewolf	Indianapolis.	43.0	28.2	12.1
29064	Sent in from	Marion	43.6	25.4	
29116	Mrs. Perry Whitehead	Goshen	44.6	26.6	
29170	Sent in from	Marion	41.7	32.6	
29179	T. Rowland	Logansport	42.7	28.8	
29221	F. C. Heit	Fort Wayne	44.0	30.8	12.5
29256	White River Creamery Co.	Muncie	43.4	28.4	
29297	C. Y. Foster	Carmel	43.0	26.0	
29554	S. Freiburger & Co.	Fort Wayne	43.0	26.0	
29584	Sent in from	Terre Haute	42.0	27.4	
29785	J. L. Steiner	Indianapolis	42.2		16.0
29924	Sent in from	Indianapolis	42.6		
30081	Sent in from	Richmond	43.2	31.0	

BUTTER—ILLEGAL.

Laboratory No.	Retailer.	Collected.	Butyro 40° C.	Reichert-Meissl Number.	Moisture.
29552	Sent in from	New Albany			37.0
29736*	Sent in from	Indianapolis	49.2	2.10	
29736*	Sent in from	Indianapolis	49.2	3.6	

*Oleomargarine.

CREAM.

But 4 of the 26 cream samples analyzed were illegal. One sample in addition to being low in fat was slightly dirty. Another sample containing 35 per cent of butter fat was labeled to contain 36 to 38 per cent.

CREAM—LEGAL.

Laboratory No.	Manufacturer or Dealer.	Where Collected.	Per Cent. of Fat.	Remarks.
29304	E. E. Harvey	Mooreville	19.2	No formaldehyde. No formaldehyde. No formaldehyde. No formaldehyde.
29329	C. J. Wilson	Plainville	19.0	
29422	C. Jones	Anderson		
29423	C. Jones	Anderson		
29424	Mr. Towler	Anderson		
29425	Mr. Towler	Anderson		
29560	E. F. Harvey	Waverly	20.3	
29562	J. C. McAlister	Muncie	23.0	
29585	Sent in from	Indianapolis	23.5	
29606	Sent in from	Indianapolis	21.5	
29640	Charles Mann	West Newton	33.6	No foreign fat.
29649	F. E. Mann	West Newton	28.5	
29650	F. E. Mann	West Newton	28.5	
29850	Sent in from	Indianapolis	20.0	
29861	Sent in from	Indianapolis	20.0	
29862	E. F. Harvey	Waverly	18.0	
29863	E. F. Harvey	Waverly	19.0	
29915	Cox & Davidson	Indianapolis	18.0	
29997	E. S. Collier	Indianapolis	21.5	
30169	Wm. Dorris	Connersville	25.0	
30207	Sent in from	Marion	20.0	
30208	Sent in from	Marion	28.0	

CREAM—ILLEGAL.

Laboratory No.	Manufacturer or Dealer.	Where Collected.	Per Cent. of Fat.	Remarks.
27132	Sent in from	Lafayette	35.0	Labeled to contain 36 per cent. to 38 per cent.
29360	E. F. Etter	Indianapolis	16.8	Low in fat; slightly dirty.
29813	Cox and Davidson	Indianapolis	12.8	Low in butter fat.
30140	Ben Patterson	Marion	16.4	Low in butter fat.

ICE CREAM.

Of the 34 samples examined 28 were legal, 6 or 17.6 per cent were illegal. The illegal samples were in every case so reported because of a low butter fat content.

ICE CREAM—LEGAL.

Laboratory No.	Manufacturer or Dealer.	Where Collected.	Per Cent. of Fat.
29512	D. Contos.....	Mishawaka.....	10.0
29513	F. Burm.....	Mishawaka.....	16.8
29514	F. Burm.....	Mishawaka.....	8.0
29628	T. H. Pure Milk Co.....	Terre Haute.....	8.2
29629	Jim Geogopolis.....	Terre Haute.....	8.2
29737	Sent in from.....	Indianapolis.....	13.0
29738	Sent in from.....	Indianapolis.....	11.5
29739	Sent in from.....	Indianapolis.....	12.0
29775	T. H. Pure Milk Co.....	Terre Haute.....	8.0
29779	Furnass Ice Cream Co.....	Terre Haute.....	8.0
29845	Sent in from.....	Indianapolis.....	16.0
29846	Sent in from.....	Indianapolis.....	20.0
29876	S. Husinas.....	Goshen.....	8.0
29881	Polozoes Bros.....	Goshen.....	13.0
29890	M. E. Bowes.....	LaPorte.....	13.5
29891	F. C. Sage.....	LaPorte.....	8.5
29892	Chas. Pagin.....	LaPorte.....	11.0
29893	Lenick & Son.....	LaPorte.....	8.5
29894	Geo. Lamberson.....	LaPorte.....	10.5
29895	John Moshes.....	LaPorte.....	15.5
29906	David Bruebeck.....	New Albany.....	11.0
29910	John Haffen.....	New Albany.....	18.0
29911	Bird & Stratton.....	New Albany.....	12.0
29969	Draxel Ice Cream Co.....	Elkhart.....	10.4
29970	Teininger Ice Cream Co.....	Elkhart.....	12.0
29990	C. E. Elder.....	Elkhart.....	12.4
30059	Sent in from.....	Indianapolis.....	16.5
30093	Sent in from.....	Shelbyville.....	11.8

ICE CREAMS—ILLEGAL.

Laboratory No.	Manufacturer or Retailer.	Where Collected.	Per Cent. of Fat.	Remarks.
29630	Model Ice Cream Co.....	Terre Haute.....	6.0	Low in butter fat.
29647	Howard & Son.....	Peru.....	7.6	Low in butter fat.
29648	Howard & Son.....	Peru.....	6.4	Low in butter fat.
29696	Columbus Bottling Works.....	Columbus.....	5.2	Low in butter fat.
29880	D. H. Hawks.....	Goshen.....	6.4	Low in butter fat.
29989	Frank Bunn.....	Mishawaka.....	6.8	Low in butter fat.

BEVERAGES.

BEER.

Of the 6 samples of beer examined all were legal. The alcohol content varied from 1.55 per cent to 4.64 per cent.

BEERS—LEGAL.

Laboratory No.	Manufacturer or Retailer.	Where Collected.	Immersion Reading at 17.5.	Alcohol by Volume.
29311	Sent in from.....	Crothersville.....	20.25	4.22
29928	Reuben Hess.....	Kentland.....	16.8	1.55
29991	Sent in from.....	Indianapolis.....	.....	4.41
30096	Sent in from.....	Indianapolis.....	20.3	4.26
30098	Sent in from.....	Gas City.....	20.8	4.64
30151	Sent in from.....	Gas City.....	20.8	4.64

TEMPERANCE BEER.

Thirty-six samples of temperance beers, that is, beers sold in dry territory as non-alcoholic beverages, were analyzed. Eighteen of these samples were in fact alcoholic, the content ranging from 1.62 to 4.91 per cent. The only explanation for these factors is that the beers were purposely misbranded. The legal temperance beers varied in alcohol content from .25 per cent to .70 per cent. If these beers were classified as required by the liquor laws which fixes .50 per cent as the maximum per cent of alcohol allowable in non-intoxicating beverages, 10 of the 18 samples listed as legal would be classed as illegal.

TEMPERANCE BEERS—LEGAL.

Laboratory No.	Article.	Manufacturer or Dealer.	Immersion Reading.	Alcohol by Volume.
28993	Nectar Foam.....	Wabash Brewing Co., Wabash..	15.0	
29497	Malto-Dextrine.....	O. C. Baganz, Indianapolis.....	15.1	
29519	Temperance beer...	Oscar Lanphar, Princeton.....	15.0	
29520	Temperance beer...	Oscar Lanphar, Princeton.....	15.0	
29577	Temperance beer...	Sent in from Marion.....	15.75	.66*
29748	Temperance beer...	Chas. M. Lands, Rensselaer.....	15.6	.52*
29778	Temperance beer...	Sent in from Kokomo.....	16.2	.67*
29779	Temperance beer...	Sent in from Kokomo.....	16.3	.70*
29806	No beer.....	F. W. Norton Brewing Co., Anderson.....	15.6	.52*
29975	Temperance beer...	Mrs. H. M. Rogers, Petersburg.	15.8	.70*
29995	Temperance beer...	Mrs. H. M. Rogers, Petersburg.	15.8	.70*
30008	Temperance beer...	Sent in from Wabash.....	15.5	.44
30014	Temperance beer...	Attica Art. Ice and Bottling Works, Attica.....	15.65	.50
30079	Temperance beer...	Berghoff Brewing Co., Fort Wayne.....	15.35	.31
30080	Temperance beer...	Norton Brewing Co., Anderson.	15.75	.66*
30102	Temperance beer...	Sent in from Indianapolis.....	15.75	.66*
30103	Temperance beer...	Oscar Lanphar, Princeton.....	15.3	.25
30146	Malt cream.....	Berghoff Brewing Co., Fort Wayne.....	15.3	.26

*Slightly high in alcohol.

TEMPERANCE BEERS—ILLEGAL.

Laboratory No.	Article.	Manufacturer or Dealer.	Im-mersion Reading.	Alcohol by Volume.	Remarks.
29094	Cream of hops....	Fenton & Herron, Noblesville....	17.0	1.71	High in alcohol.
29095	Pabst mead.....	Sopher Company, Noblesville....	17.0	1.71	High in alcohol.
29396	Temperance beer...	Oscar Lanphar, Princeton....	21.15	4.91	High in alcohol.
29397	Temperance bere...	Oscar Lanphar, Princeton....	19.15	2.04	High in alcohol.
29398	Temperance beer...	Oscar Lanphar, Princeton....	21.05	4.84	High in alcohol.
29427	Temperance beer...	Sent in from Greensburg....	17.7	2.28	High in alcohol.
29689	Temperance beer...	Pabst Brewing Co. Milwaukee....	17.0	1.70	High in alcohol.
29690	Temperance bere...	Pabst Brewing Co. Milwaukee....	17.15	1.82	High in alcohol.
29705	Nectarine.....	George Beck, Millersburg....	20.75	4.50	High in alcohol.
29740	Temperance beer...	May Beverage Co., Chicago....	17.50	2.12	High in alcohol.
29750	Temperance beer...	Sent in from Indianapolis....	20.45	3.48	High in alcohol.
29789	Temperance beer...	Emil Anderson, Walkerton....	16.8	1.62	High in alcohol.
29790	Temperance beer...	Emil Anderson, Walkerton....	17.1	1.79	High in alcohol.
29966	Temperance beer...	Mrs. H.M. Rogers, Petersburg....	19.25	3.47	High in alcohol.
30007	Temperance beer...	Sent in from Wabash....	17.5	2.13	High in alcohol.
30095	Temperance beer...	Sent in from Indianapolis....	18.5	2.91	High in alcohol.
30198	Temperance beer...	James Dalton, Salem....	21.15	4.91	High in alcohol.
30202	Temperance beer...	Mrs. H.M. Rogers, Petersburg....	19.5	3.66	High in alcohol.

CIDER.

Twenty-three samples of cider were examined. Ten were passed as legal and 11 or 47.8 per cent illegal. The illegal ciders were in every instance so listed because of the presence of excessive quantities of alcohol. The alcohol varied from 4.95 per cent to 10.81 per cent. Eight of the ciders listed as legal were in fact artificial products sold under a proper label.

CIDERS—LEGAL.

Laboratory No.	Manufacturer or Retailer.	Brand.	Preservative.	Remarks.
28983	Wabash Bottling Works, Wabash.	Orange cider.....	None.....	Artificial.
29194	Clancy Bros., Logansport.	Orange cider.....	None.....	Artificial.
29288	Chas. A. Drew, Bluffton.	Cider.....	None.....	Artificial.
29377	R. F. Hobbs, Broadripple.	Apricot cider.....	None.....	Artificial.
29378	R. F. Hobbs, Broadripple.	Cherry cider.....	None.....	Artificial.
29379	R. F. Hobbs, Broadripple.	Blackberry cider.....	None.....	Artificial.
29380	R. F. Hobbs, Broadripple.	Red grape cider.....	None.....	Artificial.
29381	R. F. Hobbs, Broadripple.	White grape cider.....	None.....	Artificial.
29707	L. F. Smith & Co., Bluffton.	Cider.....	None.....	
29708	Chas. A. Drew, Bluffton.	Apple cider.....	None.....	
29927	Sent in from Kokomo.	Cider.....	None.....	
30206	Sent in from Indianapolis.	Cider.....	None.....	

CIDERS—ILLEGAL.

Laboratory No.	Manufacturer or Retailer.	Preservatives.			Per Cent. of Alcohol.
		Saccharin.	Benzoic Acid.	Salicylic Acid.	
29298	Old Fort Cider Co., Fort Wayne.....	Absent.	Absent.	Absent.	10.30
29727	A. T. Smith, Markland.....	Absent.	Absent.	Absent.	4.95
29762	A. K. Kelsay, Delphi.....	Absent.	Absent.	Absent.	6.05
29776	Sent in from Kokomo.....	Absent.	Absent.	Absent.	6.49
29777	Sent in from Kokomo.....	Absent.	Absent.	Absent.	8.51
29918	A. K. Kelsay, Delphi.....	Absent.	Absent.	Absent.	6.91
29922	Sent in from Kokomo.....	Absent.	Absent.	Absent.	6.49
29923	Sent in from Kokomo.....	Absent.	Absent.	Absent.	6.09
30004	John O. Frye, Frankfort.....	Absent.	Absent.	Absent.	10.46
30005	Harry McNees, Winchester.....	Absent.	Absent.	Absent.	7.94
30006	Harry McNees, Winchester.....	Absent.	Absent.	Absent.	10.81

CATSUP AND TOMATO PULP.

But few samples of these products were examined. The common adulterants once present are no longer found, and the only work now necessary is that to determine the character of the raw material. This work is largely microscopical and the samples investigated showed no evidence of the use of decomposed material.

FLAVORING EXTRACTS.

But six samples were analyzed and all were found to be legal and properly labeled. The time when lemon extracts contained no lemon oil and vanilla extracts were made from vanillin and caramel color, seems to have passed. The number of brands offered for sale is much smaller than formerly and the manufacturers' name is usually a guarantee of quality.

HONEY.

Seven samples of honey, in each case sent in by consumers or dealers, were analyzed. Every sample met the requirements of the Pure Food Law. The use of glucose as an adulterant of honey, once a common practice, has been abandoned and honeys, whether sold in comb or bulk, are pure.

HONEY.

Laboratory No.	Where Collected.	Polarization.		Sucrose.	Invert Sugar.	Total Ash.	Remarks.
		Direct.	Invert.				
28977	Marion.....	-12.0	-15.4	2.5%	76.9	.042	Legal.
28978	Marion.....	-18.0	-22.0	3.07%	69.7	.048	Legal.
29058	Vincennes.....	-16.	-22.4	4.85%	68.25	.12	Legal.
29059	Indianapolis.....	-16.8	-18.48	1.27%	70.8	.33	Legal.
29160	Kokomo.....	-15.0	-23.2	2.8%	71.3	.11	Legal.
29161	Moore's Hill.....	-21.0	-23.2	3.2%	72.3	.13	Legal.
30013	Kokomo.....	-12.8	-21.78	6.8%	.....	.04	Legal.

SYRUPS—MAPLE.

Six of the 19 syrups examined, or 31.5 per cent were listed as illegal. In every case the products were so listed because they contained more water than should have been present. Three of the adulterated samples were also low in ash content and it is probable that they were made in part from sugar.

MAPLE SYRUP—LEGAL.

Laboratory No.	Manufacturer or Retailer	Polarization.		Su- crose.	Total Ash.	Solids.	Alkalinity of Ash.	
		Direct	Invert.				Sol- uble.	Insol- uble.
29404	H. J. Day, Hagerstown.	+45.6	-21.6	52.8	.54	.....	.28	.60
29405	H. E. Fornshell, Rich- mond.....	+70.0	-20.6	69.9	.57	.....	.36	.64
29529	Mrs. O. A. Cline, Hunt- ington.....	+67.0	-24.2	.....	.96	.....	.12	1.9
29541	Mr. F. A. Doll, Indian- apolis.....	+64.0	-15.8	.....	.48	66.53	.4	.28
29553	A. L. Cutts, Indianap- olis.....	+69.2	-24.7	64.3	.61	.....	.....	.....
29559	O. H. Faugh, Indianap- olis.....	+66.0	-28.0	72.0	.35	.....	.26	.99
29573	H. F. Button, Vincennes	+60.0	-26.0	60.5	1.9	.....	2.03	1.06
29583	George F. Brown, In- dianapolis.....	+61.0	-13.0	.....	.69	.....	.32	.98
29594	Thos. Wilkins, Linden..	+65.6	-19.0	.....	.85	.....	.31	.72
29595	Mrs. L. R. Nye, Logans- port.....	+71.8	-30.0	.....	.75	.....	.28	.68
29596	Mt. View Farm, John- son, Vermont.....	+90.6	-38.6	.....	.50	.....	.28	.82
29683	Sent in from Winchester	+64.8	-20.3	64.2	.79	.....	.44	1.50
29786	A. J. Diddel, Indianap- olis.....	+50.0	-19.8	52.8	.67	.....	.....	.....

MAPLE SYRUP—ILLEGAL.

Laboratory No.	Manufacturer or Retailer	Polarization.		Su- crose.	Total Ash.	Alkalinity of Ash.		Solids.
		Direct.	Invert.			Sol- uble.	Insol- uble.	
*29004	W. H. Block, Indianap- olis.	+57.4	-19.58	59.20	.23	.12	.11	61.67
*29005	W. H. Block, Indianap- olis.			60.25	.39	.28	.20	61.8
*29403	H. J. Day, Hagerstown.	+59.2	-20.4	61.1	.31	.21	.092	
*29568	C. E. Utley, Indianap- olis.	+60.0	-27.0	66.9	.66	.25	.41	
*29597	Mt. View Farm, John- son, Vermont.	+68.0	-28.0	.....	.48	.29	.44	
*29954	Emma Leeson, Rich- mond.	+44.8	-19.2	48.8	.59	.49	.10	

*High in water content.

VINEGAR—CIDER.

Fifty-four samples of cider vinegar were analyzed and of this number 37 or 68.5 per cent were listed as illegal. In but one case, however, was the product an imitation of cider vinegar and the fault was not that of fraud, but of inexperience in the manufacture of vinegar. The acid content of many of the illegal samples was below 1 per cent and the alcohol content was correspondingly high thus compelling the conclusion that the vinegars were immature. In no case was an artificially colored product reported.

CIDER VINEGARS—LEGAL.

Laboratory No.	Manufacturer or Retailer.	Where Collected.	Acidity.	Solids.	Ash.	Alkalinity of Ash.	Color.	Lead Acetate Precipitate.	Polarization.
28975	Jones Bros.	Muncie	6.84	2.48	.29	28.0	Normal	Medium	+ .0
29285	Sent in from	Indianapolis	4.08		.29	34.0			+ .0
29567	Sent in from	Indianapolis	4.18	1.9	.23	30.0			+ .0
29664	Schnull & Company	Indianapolis	4.1	1.7	.55	42.0			+ .0
29814	Mrs. Ben Harden	Indianapolis	6.82	2.24	2.6	26.0	Normal	Medium	-1.0
29820	Sent in from	Indianapolis	4.14	1.67	.32	30.0	Medium		-1.0
29830	Sent in from	Indianapolis	3.95	2.64	.29	28.0	Normal	Heavy	-2.0
29857	Banner Brady	Indianapolis	5.43	2.23	.25	27.0	Normal	Heavy	-1.0
29859	Banner Brady	Indianapolis	6.28	2.59	.25	28.0	Normal	Heavy	-3.6
29860	Banner Brady	Indianapolis	5.24	1.86	.37	32.0	Normal	Medium	-1.4
29947	M. O'Connor	Indianapolis	4.07	4.50	.29	26.0	Normal	Heavy	-6.2
29973	O. C. Wilcox	Indianapolis	3.91	3.34	.32	28.0	Normal	Heavy	-2.6
29974	O. C. Wilcox	Indianapolis	5.0	3.34	.45	28.0	Normal	Heavy	-2.6
30000	Durkee's Pharmacy	Grandview	4.23	3.26	.30	28.0	Normal	Heavy	-2.0
30001	Robert L. Jarrett	Sheridan	5.13	3.97					
30080	Sent in from	Flat Rock	5.10						
30171	G. W. Askren	Indianapolis	5.76	3.19	.28	30.0		Heavy	+ .0

CIDER VINEGARS—ILLEGAL.

Laboratory No.	Where Collected.	Acidity.	Solids.	Ash.	Alkalinity of Ash.	Lead Acetate Precipitate.	Color.	Polarization.	Remarks.
29039	Knightstown.....	1.38	1.870	.270	24.0	Medium.....	Normal	-1.2	Low in acidity.
29040	Indianapolis.....	3.65	2.043	.183	20.0	Medium.....	Normal	+ 0.	Low in acidity and ash.
29115	Gary.....	3.77	1.95	.11	40.0	.....	.....	+ 0.	Low in acidity.
29117	Borden.....	.69	3.99	.28	30.0	.....	.....	.....	Low in acidity.
29118	Borden.....	.66	1.79	.28	31.0	.....	.....	.....	Low in acidity.
29277	South Bend.....	4.04	1.05	.12	8.0	.....	.....	+ 0	Low in solids, ash and alkalinity of ash.
29330	Batesville.....	3.5	.83	.24	.....	.....	.....	+ 0	Low in acidity, solids.
29331	Plainfield.....	2.56	2.12	.44	.....	.....	.....	+ 0	Low in acidity.
29334	Princeton.....	.....	1.86	.....	.....	.....	.....	.....	Not thoroughly fermented.
29406	Mooreesville.....	2.65	.....	.....	.....	.....	.....	.....	Low in acidity.
29407	Mooreesville.....	2.45	.....	.....	.....	.....	.....	.....	Low in acidity.
29408	Mooreesville.....	2.17	.....	.....	.....	.....	.....	.....	Low in acidity.
29410	Mooreesville.....	1.66	1.2	.....	.....	.....	.....	.....	Low in acidity and solids.
29411	Mooreesville.....	3.23	1.7	.....	.....	.....	.....	.....	Low in acidity.
29412	Mooreesville.....	1.9	1.7	.....	.....	.....	.....	.....	Low in acidity.
29413	Mooreesville.....	2.32	1.2	.....	.....	.....	.....	.....	Low in acidity.
29525	Batesville.....	6.1	.93	.10	4	.....	.....	+ 0	Low in acidity and solids.
29534	South Bend.....	3.04	.09	.013	2.0	.....	.....	+ 0	Low in solids and ash.
29535	South Bend.....	3.20	.11	.015	2.0	.....	.....	+ 0	Low in acidity.
29536	Michigan City.....	2.91	.11	.017	2.0	.....	.....	+ 0	Low in acidity.
29537	South Bend.....	3.19	.11	.018	2.0	.....	.....	+ 0	Low in acidity.
29538	Mishawaka.....	4.04	.15	.013	2.0	.....	.....	+ 0	Low in solids.
29539	Mishawaka.....	4.0	.12	.014	2.0	.....	.....	+ 0	Low in solids.
29557	Logansport.....	2.9	1.17	.....	.....	.....	.....	.....	Not totally fermented.
29561	Indianapolis.....	5.9	3.36	.11	6.0	.....	.....	+ 0	Not a legal cider vinegar.
29642	Spencer.....	4.6	4.1	.40	56.0	.....	.....	.....	Not a pure cider vinegar.
29643	Batesville.....	3.18	1.4	.34	.....	.....	.....	+ 0	Low in acidity and total solids.
29644	Batesville.....	4.5	4.9	.38	38.0	.....	.....	+ 0	Not a pure cider vinegar.
29656	Columbus.....	2.82	1.4	.....	.....	.....	.....	.....	Low in acidity.
29669	Indianapolis.....	1.54	5.115	.....	.....	.....	.....	.....	Not fermented.
29743	Peru.....	1.54	.815	.060	4.0	.....	Normal	- 8	Low in acidity.
29760	Knightstown.....	2.68	1.690	.255	24.0	.....	.....	- 1.6	Immature.
29784	Muncie.....	3.75	2.56	.52	30.0	.....	.....	.....	Low in acidity.
29843	Van Buren.....	1.47	1.790	.305	28.0	.....	.....	- 8	Low in acidity.
29858	Indianapolis.....	3.15	1.770	.295	28.0	Heavy.....	Normal	+ 0	Low in acidity, solids and ash.
29946	Spencer.....	2.63	1.328	.22	20.0	Medium.....	.....	+ 0	Low in acidity, solids and ash.
29948	Blocher.....	4.16	.370	.080	2.0	None.....	.....	+ 0	Is not a cider vinegar.

VINEGAR—MISCELLANEOUS.

Of the 36 samples of miscellaneous vinegars analyzed 25 were listed as illegal. Most of these vinegars were cider vinegars submitted by farmers and might have been included in the list of cider vinegars. The only factor determined was acidity and these figures are shown in the following tables:

MISCELLANEOUS VINEGARS—LEGAL.

Laboratory No.	Classification.	Manufacturer or Retailer.	Acidity.
29287	Distilled white.....	Sent in from Indianapolis.....	9.74
29416	Distilled.....	Sent in from Indianapolis.....	4.35
29667	Vinegar.....	Sent in from Indianapolis.....	5.38
29668	Vinegar.....	Sent in from Indianapolis.....	4.27
29734	Distilled.....	Harry G. Vance, Peru.....	5.80
29761	Vinegar.....	Watts & Spencer, Knightstown.....	4.25
29950	Vinegar.....	Vaughn & Casey, Crawfordsville.....	4.08
29955	Vinegar.....	Mrs. J. Warman, Indianapolis.....	4.37
29956	Vinegar.....	Mrs. J. Warman, Indianapolis.....	4.09
29957	Vinegar.....	Mrs. J. Warman, Indianapolis.....	5.36
30123	Vinegar.....	Jones Company, Indianapolis.....	5.11

MISCELLANEOUS VINEGARS—ILLEGAL.

Laboratory No.	Classification.	Manufacturer or Retailer.	Acidity.
29286	Colored distilled.....	Sent in from Indianapolis.....	3.32
29295	Honey vinegar.....	W. H. Mays, Goshen.....	2.77
29582	Sugar vinegar.....	Sent in from Indianapolis.....	2.56
29678	Sugar vinegar.....	Sent in from Indianapolis.....	1.26
29679	Sugar vinegar.....	Sent in from Indianapolis.....	1.55
29680	Sugar vinegar.....	Sent in from Indianapolis.....	1.39
29681	Vinegar.....	Beaufort Banta, Indianapolis.....	2.1
29682	Vinegar.....	Beaufort Banta, Indianapolis.....	2.0
29832	Vinegar.....	Curtis O. Nelson, Van Buren.....	1.4
29833	Vinegar.....	Curtis O. Nelson, Van Buren.....	1.3
29834	Vinegar.....	Curtis O. Nelson, Van Buren.....	2.44
29835	Vinegar.....	Curtis O. Nelson, Van Buren.....	1.66
29836	Vinegar.....	Curtis O. Nelson, Van Buren.....	.87
29837	Vinegar.....	Curtis O. Nelson, Van Buren.....	2.07
29838	Vinegar.....	Curtis O. Nelson, Van Buren.....	1.20
29839	Vinegar.....	Curtis O. Nelson, Van Buren.....	1.10
29840	Vinegar.....	Curtis O. Nelson, Van Buren.....	.74
29841	Vinegar.....	Curtis O. Nelson, Van Buren.....	1.05
29842	Vinegar.....	Curtis O. Nelson, Van Buren.....	2.17
29949	Vinegar.....	Vaughn & Casey, Crawfordsville.....	3.69
29951	Vinegar.....	Vaughn & Casey, Crawfordsville.....	1.67
29952	Vinegar.....	Vaughn & Casey, Crawfordsville.....	.547
29958	Vinegar.....	Mrs. J. Warman, Indianapolis.....	3.37
30061	Vinegar.....	Sent in from Flat Rock.....	3.56
30106	Vinegar.....	John Gross, Manila.....	3.45

These samples are low in acidity.

MISCELLANEOUS FOOD PRODUCTS.

Included in this list is a large number of food samples submitted for the purpose of determining their character. The products and the findings of the chemist are shown in the following table. This work is of interest only to the person who submits the sample and in many cases properly should have been referred to a private chemist. Other samples may properly be examined because of the possibility of use in a way detrimental to the public health. Of the 44 samples analyzed 31 were found to be pure and 13 or 29.5 per cent were listed as illegal.

MISCELLANEOUS FOOD PRODUCTS.

Laboratory No.	Manufacturer or Retailer.	Classification.	Remarks.
27256	C. H. Grover, Cambridge City.....	Molasses.....	Legal.
28969	John Fritz, Bluffton.....	Tea.....	Legal.
29001	C. N. Weaver, North Liberty.....	Apple butter.....	Legal.
29051	Sent in from Cary.....	Meat.....	Legal.
29089	Jas. H. Carroll, Logansport.....	Altar wine.....	Legal.
29120	O. F. Green, Spencer.....	Grape juice.....	Illegal; not grape.
29158	Sent in from Indianapolis.....	Potato chips.....	Legal.
29163	Aline Polk, Bloomington.....	Chocolate.....	Legal.
29175	Mrs. H. A. Shilling, Knox.....	Coffee.....	Legal.
29251	Joe Ballinger, Hamlet.....	Fresh pork.....	Legal.
29276	Sent in from Indianapolis.....	Nuts.....	Illegal; 60.4 per cent. bad.
29279	Sent in from Indianapolis.....	Nuts.....	Illegal; 68.0 per cent. bad.
29327	Sent in from Kokomo.....	Whiskey.....	Illegal; misbranded.
29349	Sent in from Bloomfield.....	Pork.....	Illegal.
29374	Fred Dittmer, Guilford.....	Canned peaches.....	Illegal; fruit sour.
29382	R. M. Brown, Elkhart.....	Figs.....	Legal.
29383	H. F. Vollmer, Washington.....	Apple butter.....	Illegal; benzoic acid present.
29478	Thos. Gornley, Shoals.....	Brandy.....	Legal.
29521	P. L. McNeil, Portland.....	Egg substitute.....	Legal.
29547	Richmond Baking Co., Richmond.....	Currant jelly.....	Legal.
29548	Richmond Baking Co., Richmond.....	Jelly.....	Legal.
29549	Richmond Baking Co., Richmond.....	Apple and Raspberry flavor.....	Legal.
29550	Miss Carrie A. Smith, Terre Haute.....	Meat loaf.....	Legal.
29601	Schnull & Co., Indianapolis.....	Syrup.....	Legal.
29651	Blue Valley Creamery, Indianapolis.....	Pimento cheese.....	Legal.
29684	Marion McIver, Ambia.....	Whiskey.....	Legal.
29709	Bloomington Grocery, Bloomington.....	Sweet relish.....	Illegal; benzoic acid present.
29726	R. Kreutzberger, Logansport.....	Wine.....	Legal.
29727	L. B. Clore, LaPorte.....	Grape juice.....	Illegal; zinc present.
29729	Elgin Packing Co., Elgin, Ill.....	Corn packed in 1888.....	Legal.
29730	Sent in from Indianapolis.....	Starch-wheat.....	Illegal; is corn starch.
29752	F. A. Meuntzer, Indianapolis.....	Coffee.....	Legal.
29755	Cloud & Son, Macy.....	Allspice.....	Legal.
29756	Cloud & Son, Macy.....	Pepper.....	Legal.
29757	Cloud & Son, Macy.....	Ginger.....	Legal.
29831	J. W. Milligan, Madison.....	Wheat starch.....	Legal.
29844	Dunn's Buttermilk Co.....	Butter.....	Legal.
29953	LaFayette Chemical Co., LaFayette.....	Orangeade powder.....	Illegal; citric acid present; colored.
29979	D. B. Hazen, Boonville.....	Gooseberries.....	Legal.
29908	S. S. Kresge, Kokomo.....	Candy.....	Legal.
30110	L. L. Rarick, Warsaw.....	Gelatin.....	Legal.
30114	Mrs. Ida Schofield, Indianapolis.....	Coffee.....	Legal.
30154	C. M. Carlin, Noblesville.....	Cocoa.....	Illegal; too high in ash.
30155	C. M. Carlin, Noblesville.....	Cocoa.....	Illegal; too high in ash.

FOOD SAMPLES EXAMINED FOR POISON.

While the laboratories of the State Board of Health are not concerned with toxicological examinations, except as results may be of interest to the public health, in a number of instances we have examined samples submitted by health officers and interested persons. The following table lists the samples and indicates the results.

FOOD SAMPLES EXAMINED FOR POISON.

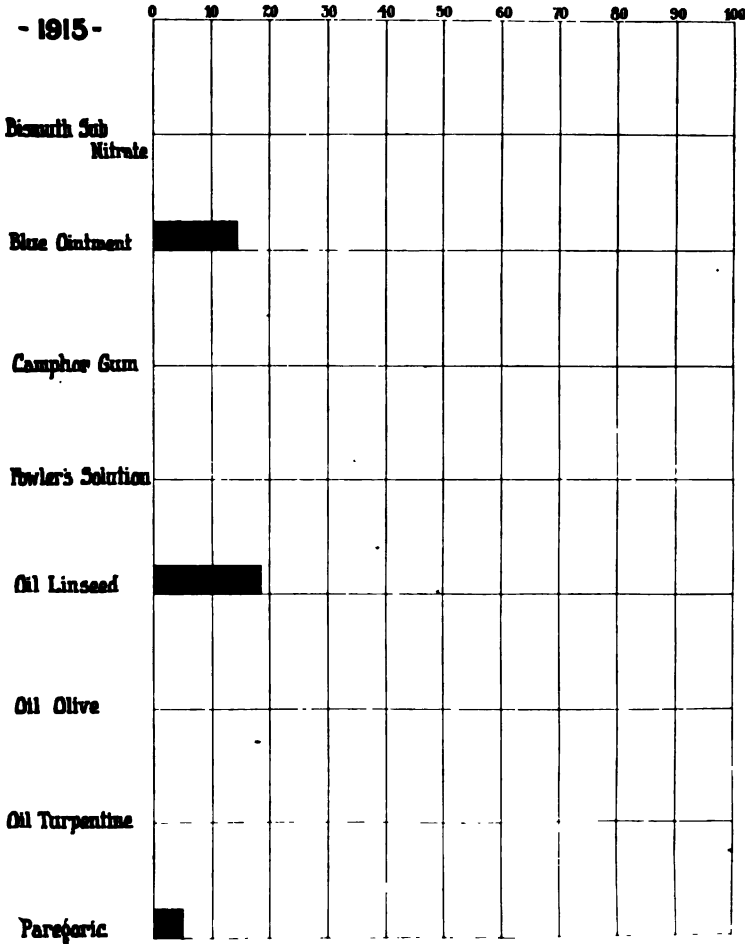
Laboratory No.	Classification.	Sent in from.	Remarks.
29054	Tea.....	West Union.....	Alkaloids and arsenic absent.
29278	Apples.....	North Manchester.....	No poisons detected.
29294	Hamburger.....	Indianapolis.....	No poisons detected.
29551	Cranberries.....	Hartford City.....	Croton oil present.
29691	Bread dough.....	Aurora.....	Lead and phosphorus present.
29728	Cake and cream tartar.....	Shelbyville.....	So-called cream of tartar was tartar emetic.
29795	Cocoa.....	Gosport.....	Strychnine absent.
29877	Candy.....	Indianapolis.....	No poison detected.
29925	Apples.....	Woodburn.....	No poison detected.
29932	Water.....	Indianapolis.....	No poison detected.
30009	Canned cherries.....	Lawrence.....	Arsenic and alkaloids absent.
30076	Flour.....	Kennard.....	Arsenic and alkaloids absent.
30112	Flour.....	Indianapolis.....	Arsenic and alkaloids absent.
30113	Sugar.....	Indianapolis.....	Arsenic and alkaloids absent.
30117	Candy.....	Kokomo.....	Arsenic and alkaloids absent.
30205	Cakes.....	Indianapolis.....	Arsenic and alkaloids absent.

REPORT FROM THE DRUG LABORATORY.

The Drug Laboratory finds its greatest field for usefulness, not in the analysis of spirits of camphor, tincture of iodine or lime water, but in a study of the nostrums and patent medicines offered for sale. The work of the prescription clerk may very properly be checked up from time to time with good results both to the clerk and to the patient. The high standard set by the pharmacist can be the better maintained because the drug inspector and the pharmaceutical chemist is behind it. But the patient, suffering perhaps from consumption, diseases of the alimentary tract or venereal diseases, is protected by the publication of data showing the worthlessness of the preparations they are continually, by agent and advertisement, urged to buy. The work of the drug laboratory is therefore being devoted largely to the analysis of the so-called medical frauds and

PERCENTAGE of ADULTERATION of DRUGS ANALYZED in INDIANA

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nostrums, and the results given as great publicity as it is possible to obtain. We believe that the concerted attack which is being made upon nostrums by the medical profession, by the intelligent press and by the drug control laboratories is not without results. If nothing else has been accomplished a comparative study of the labels used a few years ago and now shows a complete change in the character and style of the advertising employed. The consumptive is no longer deluded by extravagant promises to cure. Universal cure-alls are not sold as freely as when the manufacturer of a nostrum could claim for his preparation infallible powers for eradicating every disease from corns to organic heart lesions, diabetes to falling hair.

During the year 246 drug samples were examined. Most of these samples were of such a miscellaneous character that it was not possible to class them as legal or illegal. But five drug samples were listed as adulterated during the year.

RESULT OF DRUG ANALYSES.

Article Examined.	Legal.	Illegal.	Total.
Bismuth Subnitrate.....	8	0	8
Blue ointment.....	6	1	7
Boric acid.....	7		7
Calomel tablets.....			13
Camphor (gum).....			6
Citric acid.....			4
Cocoa butter.....			9
Cod liver oil preparations.....			13
Cold tablets.....			25
Fowler's Solution.....	8	0	8
Oil, linseed.....	13	3	16
Oil, olive.....	4		4
Oil Turpentine.....	4	0	4
Paragoric.....	17	1	18
Patent medicine.....			40
Miscellaneous.....			44
Strychnine tablets.....			20
Totals.....	67	5	246

BISMUTH SUBNITRATE.

Eight samples of Bismuth Subnitrate collected from Indianapolis pharmacies proved in each case to comply with the U. S. P. requirements.

BISMUTH SUBNITRATE—LEGAL.

Laboratory No.	Manufacturer or Retailer	Where Collected.	Arsenic.	Remarks.
29432	Star Pharmacy.....	Indianapolis	Absent....	Complies with U. S. P.
29447	Joe Stokes.....	Indianapolis	Absent....	Complies with U. S. P.
29458	Birk's Pharmacy...	Indianapolis	Absent....	Complies with U. S. P.
29462	H. J. Huder.....	Indianapolis.....	Absent....	Complies with U. S. P.
29472	Haag Drug Co.....	Indianapolis.....	Absent....	Complies with U. S. P.
29482	Weber Drug Co.....	Indianapolis.....	Absent....	Complies with U. S. P.
29489	Hook Drug Co.....	Indianapolis.....	Absent....	Complies with U. S. P.

BLUE OINTMENT.

Seven samples of Blue Ointment purchased at Indianapolis were found in every case but one to meet the pharmaceutical standard.

BLUE OINTMENT.

Laboratory No.	Manufacturer or Retailer.	Per Cent. Mercury.	Remarks.
29435	Star Pharmacy, Indianapolis.....	33.4	Legal.
29452	Birk's Pharmacy, Indianapolis.....	31.6	Legal.
29455	Joe Stokes, Indianapolis.....	31.2	Legal.
29465	H. J. Huder, Indianapolis.....	32.1	Legal.
29470	J. Hook, Indianapolis.....	32.6	Legal.
29476	Haag Drug Co., Indianapolis.....	29.1	Illegal.
29480	Weber Drug Co., Indianapolis.....	33.4	Legal.

BORIC ACID.

Seven samples of boric acid purchased from Indianapolis drug stores in every instance met the requirements.

BORIC ACID.

Laboratory No.	Manufacturer or Retailer.	Per Cent. Boric Acid.	Remarks.
29434	Star Pharmacy, Indianapolis.....	99.8	Legal.
29438	E. W. Stucky, Indianapolis.....	99.8	Legal.
29446	Joe Stokes, Indianapolis.....	99.6	Legal.
29459	Birk's Pharmacy, Indianapolis.....	100.0	Legal.
29463	H. J. Huder, Indianapolis.....	99.8	Legal.
29479	Weber Drug Co., Indianapolis.....	99.6	Legal.
29190	Hook Drug Co., Indianapolis.....	99.6	Legal.

CALOMEL TABLETS.

Thirteen samples were analyzed during the year and in every case the tablets were of full strength.

CALOMEL TABLETS.

Laboratory No.	Manufacturer or Retailer.	Grains of Calomel in each Tablet.	
		Label.	Found.
*29431	Star Pharmacy, Indianapolis.....		
*29440	E. W. Stucky, Indianapolis.....		
*29451	Joe Stokes, Indianapolis.....		
*29467	Birk's Pharmacy, Indianapolis.....		
*29475	Haag Drug Co., Indianapolis.....		
*29484	Weber Drug Co., Indianapolis.....		
*29488	Hook Drug Co., Indianapolis.....		
29626	Heywood-Veiling Co., Lafayette.....	1-0	.9970
29627a	Wells-Yeager-Bert, Lafayette.....	1-8	.2014
29627b	Wells-Yeager-Bert, Lafayette.....	1-8	.1966
29627c	Wells-Yeager-Bert, Lafayette.....	1-4	.3268
29645a	Bartlett Co., Lafayette.....	1-4	.2780
29645b	Bartlett Co., Lafayette.....	1-2	.5441

*Sample too small for complete analysis.

COCOA BUTTER.

Nine samples of cocoa butter purchased in Indianapolis were examined and in every case the butters met the standards set by the U. S. P.

COCOA BUTTER—LEGAL.

Laboratory No.	Manufacturer or Retailer.	Where Collected.	Butyro at 40° C.	Melt-ing Point.	Saponifi-cation Number.
29159	Food Products Company..	Indianapolis.....	35.5	26.0	
29433	Star Pharmacy.....	Indianapolis.....		33.0	198.5
29442	E. W. Stucky.....	Indianapolis.....		33.0	192.8
29448	Joe Stokes.....	Indianapolis.....		33.0	191.6
29457	Birk's Pharmacy.....	Indianapolis.....		32.5	192.2
29469	H. J. Huder.....	Indianapolis.....		31.0	187.5
29473	Haag Drug Co.....	Indianapolis.....		33.0	202.5
29485	Weber Drug Co.....	Indianapolis.....		33.0	190.5
29487	Hook Drug Co.....	Indianapolis.....		33.0	185.5

CITRIC ACID.

Two of the four samples of citric acid were adulterated. One was tartaric and the other a mixture of tartaric and citric acids.

CITRIC ACID.

Laboratory No.	Manufacturer or Retailer.	Remarks.
29337	Tittle Bros., Gary	Sample is tartaric acid; illegal.
29338	Meyer Drug Co., Gary	Complies with U. S. P.
29339	Meter Drug Co., Gary	A mixture of tartaric and citric acids.
29340	Red Cross Drug Co.	Complies with U. S. P.

FOWLER'S SOLUTION.

All of the eight samples of Fowler's Solution were of legal strength.

FOWLER'S SOLUTION.

Laboratory No.	Manufacturer or Retailer.	Where Collected.	Arsenic Trioxide, Grs. per 100 c.c.	U. S. P. Strength.
29428	Star Pharmacy	Indianapolis	1.010	101.0
29443	E. W. Stucky	Indianapolis .....	.968	96.8
29444	Joe Stokes	Indianapolis	1.030	103.0
29454	Birk's Pharmacy	Indianapolis	1.030	103.0
29464	H. J. Huder	Indianapolis	1.030	103.0
29471	Hook Drug Co.	Indianapolis	1.036	103.6
29483	Weber Drug Co.	Indianapolis .....	.964	96.4
29492	Haag Drug Co.	Indianapolis .....	.862	86.2

GUM CAMPHOR.

Six samples of gum camphor purchased at Indianapolis, in every case complied with the U. S. P. requirements.

GUM CAMPHOR.

Laboratory No.	Manufacturer or Retailer.	Melting Point.	Remarks.
29437	E. W. Stucky, Indianapolis	173.5	Complies with U. S. P.
29449	Joe Stokes, Indianapolis	173.0	Complies with U. S. P.
29456	Birk's Pharmacy, Indianapolis	172.5	Complies with U. S. P.
29468	H. J. Huder, Indianapolis	173.5	Complies with U. S. P.
29478	Weber Drug Co., Indianapolis	174.0	Complies with U. S. P.
29491	Hook Drug Co., Indianapolis	174.5	Complies with U. S. P.

LINSEED OIL.

The State Board of Health is charged with the enforcement of the Pure Linseed Oil Law and painters, oil jobbers and paint and color manufacturers occasionally use the laboratory as a means of checking up the quality of their own goods or that of their competitors. Of the 16 linseed oils analyzed during the year 13 were legal and 3 illegal.

LINSEED OIL—LEGAL.

Laboratory No.	Manufacturer or Retailer.	Where Collected.	Saponification Number.	Hexa-bromides.
*28988	Roland Tutt.....	Crawfordsville.....		
*28989	Roland Tutt.....	Crawfordsville.....		
29025	Indianapolis Paint & Color Co.....	Indianapolis.....	192.3	36.15
29496	Chas. Tolson.....	Linton.....	189.5	28.81
29576	Sent in from.....	Aurora.....	190.9	31.99
29586	Lenora Weiss.....	Indianapolis.....	188.1	27.09
29598	Indianapolis Paint & Color Co.....	Indianapolis.....	188.1	30.49
29654	James Grier.....	Kokomo.....	190.9	33.04
29655	Indianapolis Paint & Color Co.....	Indianapolis.....	189.5	29.75
29695	S. S. Thompson.....	Indianapolis.....	192.3	29.81
29796	Dr. E. N. Johnson.....	Sandborn.....	192.3	26.31
29800	Sent in from.....	Elkhart.....	189.5	25.32
30010	L. E. Andis.....	Scottsburg.....	193.6	32.53

*Comply with the requirements U. S. P.

LINSEED OIL—ILLEGAL.

Laboratory No.	Manufacturer or Retailer.	Where Collected.	Saponification Number.	Hexa-bromides.
29253	J. F. O'Hair.....	Greencastle.....	163.0	19.58
29293	R. L. Nelson.....	Indianapolis.....	164.2	28.7
29801	Dr. E. N. Johnson.....	Sandborn.....	66.8	10.13

OIL OF TURPENTINE.

The four turpentines examined during the year in each case met the U. S. P. requirements.

OIL OF TURPENTINE

Laboratory No.	Manufacturer or Retailer.	Boiling Point.	Remarks.
29026	Sent in from Mishawaka.....	155	Complies with U. S. P.
29599	Marion Paint & Varnish Co., Marion.....	150	Complies with U. S. P.
29687	Binkley Medical Co., Nappanee.....		Complies with U. S. P.
29722	Binkley Medical Co., Nappanee.....	155	Complies with U. S. P.

OLIVE OIL.

Four samples of olive oil submitted for test as to its medicinal purity were in each case found to meet the requirements.

OLIVE OIL—LEGAL.

Laboratory No.	Sent in by	Where Collected.	Cottonseed Oil Present.
29292	John M. Miller.....	Rome City.....	None.
29326	Kutche & Adams.....	Richmond.....	None.
29393	Mr. Montani.....	Indianapolis.....	None.
29641	Chas. Glomo.....	South Bend.....	None.

PAREGORIC.

Seventeen of the 18 samples of paregoric examined were properly labeled and passed as legal, although in a few cases the morphine content was slightly below the U. S. P. requirements. One sample contained but .0372 grams of morphine to the 100 c.c. and was therefore classed as illegal.

PAREGORIC.

Laboratory No.	Manufacturer or Retailer.	Morphine, Grams per 100 c.c.	U. S. P. Strength.
29702	Navins Pharmacy, Indianapolis.....	.0480	100
29703	Haag Drug Co., Indianapolis.....	.0468	97.5
30028	Steele Pharmacy, Gary.....	.0396	82.5
30029	Ridgely's Drug Co., Gary.....	.0444	92.5
30030	Hall's Drug Co., Gary.....	.0504	100.8
30031	Guy Steele, Gary.....	.0432	90.0
30032	Mr. Stringfellow, Gary.....	.0432	90.0
30033	B. L. Bremer, Valparaiso.....	.0468	99.8
30034	Heineman & Stevens, Valparaiso.....	.0456	97.1
30036	J. A. Larsh, Rensselaer.....	.0444	94.8
30038	Central Drug Store, Indiana Harbor.....	.0438	91.2
30039	A. Schlieker, East Chicago.....	.0504	100.8
30040	Haller & Reid, East Chicago.....	.0432	90.0
30041	L. H. Mattern, Whiting.....	.0516	103.2
30042	Nelson Drug Co., Hammond.....	.0486	100.0
30043	M. C. Norris, Hammond.....	.0456	97.1
30044*	Harry Weiss, Hammond.....	.0372	77.5
30045	J. Weiss, Hammond.....	.0432	90.0

STRYCHNINE TABLETS.

Special study was made of strychnine tablets to determine whether the strychnine content agreed with that indicated on the label. Twenty samples were analyzed and the results were very satisfactory, showing in no case a wide divergence from the normal.

STRYCHNINE TABLETS.

Laboratory No.	Manufacturer or Retailer.	Grains of Strychnine in each Tablet.	
		Label.	Found.
29429	Eli Lilly Co., Indianapolis.....	1-30	.0325
29439	E. W. Stucky, Indianapolis.....	1-30	.0372
29450	Joe Stokes, Indianapolis.....	1-30	.0355
29466	H. J. Huder, Indianapolis.....	1-30	.0316
29474	Eli Lilly Co., Indianapolis.....	1-40	.0268
29481	Weber Drug Co., Indianapolis.....	1-30	.0244
29486	Hook Drug Co., Indianapolis.....	1-30	.0313
29711	Eli Lilly Co., Indianapolis.....	1.60	.0184
29712	Blue & Sant, Wabash.....	1-60	.0174
29713	Eli Lilly Co., Indianapolis.....	1-30	.0314
29715	Eli Lilly Co., Indianapolis.....	1-60	.0205
29716	F. Gilworth, Warsaw.....	1-40	.0229
29717	Eli Lilly Co., Indianapolis.....	1-40	.0237
29719	H. S. Tritt, Logansport.....	1-20	.0405
29720a	L. Turman, Logansport.....	1-30	.0178
29720b	L. Turman, Logansport.....	1-30	.0331
29721	Eli Lilly Co., Indianapolis.....	1-40	.0202
29864	Birk's Pharmacy, Indianapolis.....	1-30	.0372
29865a	Bradley Bros., Wabash.....	1-30	.0289
29865b	Bradley Bros., Wabash.....	1-30	.0209

COD LIVER OIL EMULSIONS.

Fifteen samples of cod liver oil emulsions and similar preparations were analyzed, of which seven were simply labeled "Cod Liver Oil Emulsions," two were particular kinds of emulsions, three were Cod Liver Oil alone and three were sold under trade names. Of this last group, two claimed the presence of cod liver oil, while the third was called an emulsion of mixed fats.

Cod Liver Oil Emulsion when made as directed by the U. S. P. should contain 50-per cent by weight of oil. The seven samples that were so labeled contained from 18.2 per cent to 45.6 per cent oil though the average is nearer the maximum than the minimum.

The oils extracted from these seven emulsions were submitted to the tests required by the Pharmacopeia and five were found to comply in all particulars. It is interesting to note that the two oils which did not comply and were therefore fictitious, were present in their smallest amounts in their respective emulsions, or, in other words, the consumer who purchased either No. 29149 or No. 29153, received not only the smallest amount of oil but also oil that was adulterated.

Samples No. 26259 and No. 29121, although sold under trade names, are cod liver oil emulsions and compare favorably with the others, both in per cent and quality of oil.

Sample 29142 was clearly stated to be an emulsion of mixed fats.

COD LIVER OILS AND COD LIVER OIL EMULSIONS AND PREPARATIONS.

Laboratory No.	Manufacturer or Retailer.	Classification.	Sulphuric Acid.	Fuming Nitric.	Chloroform and Sulphuric Acid.	Carbon Disulphide and Sulphuric Acid.	Per Cent. of Oil.	Saponification Number.	Iodine Number.	Abbe at 20° C.	Size of Bottle.	Price.
26149	Weber Drug Co., Indianapolis.	Cod liver oil.	+	+	+	+	.....	184.9	145.4	1.4772	14 oz.	\$.75
26150	Weber Drug Co., Indianapolis.	Emulsion cod liver oil.	+	+	+	+	35.8	174.7	140.9	1.4755	6½ oz.	.50
26202	Ed. Feger, Indianapolis.	Cod liver oil.	+	+	+	+	.....	185.1	148.6	1.4770	16 oz.	.75
26204	Ed. Feger, Indianapolis.	Emulsion cod liver oil.	+	+	+	+	34.4	177.7	143.2	1.4756	11 oz.	1.00
26210	J. Mead, Indianapolis.	Emulsion cod liver oil.	+	+	+	+	29.7	180.3	149.7	1.4768	13 oz.	1.00
26219	L. Haag, Indianapolis.	Emulsion cod liver oil.	+	+	+	+	33.6	183.4	143.7	1.4772	8 oz.	.50
26220	L. Haag, Indianapolis.	Emulsion cod liver oil.	+	+	+	+	45.6	188.7	145.8	1.4764	7 oz.	.50
26259	Haag Drug Co., Indianapolis.	Ozomulsion	+	+	+	+	33.3	185.4	142.4	1.4792	8 oz.	.50
26260	Haag Drug Co., Indianapolis.	Cod liver oil and malt extract.	+	-	-	-	16.8	186.3	121.8	1.4767	9 oz.	1.00
29099	Haag Drug Co., Indianapolis.	Cod liver oil.	+	+	+	+	.....	185.7	147.3	1.4774	16 oz.	.75
29121	Haag Drug Co., Indianapolis.	Hydroleline.	+	+	+	+	38.0	172.8	133.5	1.4750	9½ oz.	1.00
29142	State Pharmacy, Indianapolis.	Sevetol.	-	-	-	-	14.1	178.1	87.7	1.4661	16 oz.	1.00
29149	F. H. Carter, Indianapolis.	Emulsion.	(?)	-	-	-	28.2	165.2	144.1	1.4783	11 oz.	1.00
29150	F. H. Carter, Indianapolis.	Egg emulsion cod liver oil.	+	+	+	+	38.0	186.9	141.1	1.4743	16 oz.	1.00
29153	F. H. Carter, Indianapolis.	Emulsion cod liver oil.	+	-	-	-	18.2	168.6	127.9	1.4755	12 oz.	.75

COLD TABLETS.

Colds are universal ailments. Everyone is afflicted with them and far too many seek relief in drugs, forgetting or disbelieving the old adage, "the only cure for a cold is three days." The usual cold tablet is acetanilid. Of the 25 samples analyzed acetanilid was the active principal in all save two samples and in these acetphenetidin was used. In some cases the content of acetanilid was greater than that indicated on the label. In some cases it was less. Acetanilid is a powerful heart depressant and in this case a stronger preparation than that indicated by the label is more dangerous than if the quantity present was less than that declared.

COLD TABLETS.

Laboratory No.	Manufacturer or Retailer.	Classification.	Acetanilid: Grains per Tablet.	
			Found.	Label.
29096	B. Keene, Indianapolis.....	Phospho Quinine.....	.41	.5
29097	B. Keene, Indianapolis.....	Cold and Fever Capsules.....	.97	1.0
29098	B. Keene, Indianapolis.....	Laxa Cold Tablets.....	2.05	2.0
29122	Haag Drug Store, Indianapolis.....	Hill's Cascara Quinine.....	1.35	1.5
21924	Haag Drug Store, Indianapolis.....	Bromo Quinine.....	2.19*	2.0
29125	Haag Drug Store, Indianapolis.....	Hall's Laxative Quinine.....	1.58	1.5
29128	Haag Drug Store, Indianapolis.....	Week's Cold Tablets.....	1.00	.54
29129	Haag Drug Store, Indianapolis.....	Papes' Cold Compound.....	1.25	1.5
29130	Hoosier Remedy Co., Indianapolis.....	Laxa Perin.....	1.30	1.0
29132	Pearson's Drug Co., Indianapolis.....	Laxative Cold Tablets.....	1.39	1.5
29134	Huder Drug Store, Indianapolis.....	Rexall Cold Tablets.....	1.00*	.75
29136	Hook Drug Store, Indianapolis.....	A. D. S. Cold and Grippe Tablets.....	.88 m	2.0
29137	Pearson's Drug Store, Indianapolis.....	Cold Tablets.....	1.46	1.0
29139	E. W. Stucky, Indianapolis.....	Cold Remedy.....	2.16	2.0
29141	State Pharmacy, Indianapolis.....	Pink Laxo-Quinine.....	2.2	1.5
29144	F. E. Erdlemeyer, Indianapolis.....	Ingrams LaGrippe Tablets.....	.94	
29145	Star Pharmacy, Indianapolis.....	Cold Tablets.....	.54	1.0
29147	Moroney Medicine Co., Indianapolis.....	Dr. Long's Anti-Cold Kold Knocker.....	1.44	
29148	Hooster Tablet Co., Indianapolis.....	Krause Cold Capsules.....	1.32	
29151	J. H. Carter, Indianapolis.....	Cold Tablets.....	3.12	3.0
29154	F. H. Carter, Indianapolis.....	Cold Tablets.....	1.02	1.0
29165	H. E. Zimmer, Indianapolis.....	Zimmer's Cold Tablets.....	1.82	2.0
29166	Mueller Drug Co., Indianapolis.....	Mueller Chill Capsules.....	.98	
29167	J. E. Frauer, Indianapolis.....	Anti-Grippe.....	1.77	2.0
29168	H. E. Frauer, Indianapolis.....	Cold Tablets.....	2.11	2.0

*Acetphenetidin

MISCELLANEOUS DRUG ANALYSES.

A large number of samples are received from physicians and others who are interested in the character of the drugs they are dispensing or taking. Many of the samples are listed below and have interesting histories. The rubber plate for instance, analyzed for mercury, was submitted by a dentist whose patient was suffering from what appeared to be mercurial poisoning. A number of the samples contained poisons, evidently added with malicious intent. One powder submitted, contained arsenic, mercury and strychnine. A large number of samples of quinine sulphate were as a matter of fact strychnine hydrochloride. It appeared that these samples were sent by mail from Indianapolis to residents of Owen county in the blue bottle and under the label of a well known brand of quinine. Each bottle was marked "free sample" and in a number of instances the recipient took a sufficient quantity of the contents of the package to become seriously ill. It was impossible to determine how many samples had been sent into the county, but eleven samples were submitted by residents to the laboratory for analysis. It is interesting to note that the person who was suspected of having sent the samples was found dead shortly before the time set by the officials for his arrest.

MISCELLANEOUS DRUG ANALYSES.

Laboratory No.	Manufacturer or Retailer.	Classification.	Remarks.
28990	Sent in from Noblesville.	Fruit acid.....	Legal.
29027	J. J. Keene, Indianapolis.	Unknown powder.....	Sample contains acetanilid.
29028	J. J. Keene, Indianapolis.	Unknown powder.....	Sample contains morphine.
29053	Board of Pharmacy, Indianapolis.....	Unknown powder.....	Sample contains morphine.
29055	Will Hogan, Wolf Lake.	Oil, peppermint.....	Dimethyl sulphide absent.
29204	Sent in from Peru.....	Unknown powder.....	Evidently boric acid.
29205	Sent in from Peru.....	Unknown liquid.....	Solution of mercuric chloride containing some tartaric or citric acid.
29252	Sent in from Veedersburg.	Stock feed.....	Sample contains arsenic.
29254	Sent in from Bremen.....	Unknown solution.....	Evidently creosote.
29255	Sent in from Indianapolis.	Acetanilid.....	Sodium bicarbonate present.
29263	Sent in from Indianapolis.	Cold cream.....	Evidently a solution of lemon oil in vaseline.
29265	E. T. Wooden, Rushville.	Contents of stomach...	No cyanides present.
29266	Homer Rainsberger, La- porte	Anise flavor.....	Properly labeled.
29270	Homer Rainsberger, La- porte	Panacea.....	Properly labeled.
29271	Homer Rainsberger, La- porte	Hair tonic.....	Properly labeled.
29274	Sent in from Indianapolis.	Oil.....	Contains graphite.
29290	Sent in from Logansport.	Unknown powder.....	Contains arsenic.

MISCELLANEOUS DRUG ANALYSES—Continued.

Laboratory No.	Manufacturer or Retailer.	Classification.	Remarks.
29312	Sent in from Laporte....	Unknown pills.....	Contains aloes.
29328	Sent in from Indianapolis.	Unknown pills.....	Evidently usual hypophosphite preparation.
29351	Sent in from Mishawaka.	Unknown pills.....	Evidently aspirin.
29352	Sent in from Portland...	Urine.....	Nothing abnormal detected.
29353	Board of Pharmacy, Indianapolis.	Powder.....	Sample contains cocaine.
29354	Board of Pharmacy, Indianapolis.	Powder.....	Sample contains cocaine.
29355	Board of Pharmacy, Indianapolis.	Powder.....	Samples contain cocaine.
29356	Board of Pharmacy, Indianapolis.	Powder.....	Sample contains cocaine.
29357	Board of Pharmacy, Indianapolis.	Unknown substance....	Sample is gum opium.
29392	Sent in from Indianapolis.	Limestone.....	Calcium carbonate, 97.96 per cent.
29395	Sent in from North Vernon.	Roach poison.....	Phosphorus present.
29399	O. A. Humbert, West Union.	Candy.....	No poison detected.
29400	O. A. Humbert, West Union.	Liquid.....	No poison detected.
29401	Sent in from East Chicago.	Candy.....	No poison detected.
29402	Sent in from East Chicago.	Powder.....	Strychnine present.
29495	Thos. Gormley, Shoals.	Alcohol.....	Complies with U. S. P.
29499	Mrs. Norman Corwyn, Chicago, Ill.	Candy.....	No poison detected.
29500	Mrs. Norman Corwyn, Chicago, Ill.	Powder.....	Arsenic, mercury, strychnine present.
29522	Sent in from Indianapolis.	Rubber plate.....	No mercury present.
29587	B. F. Bremen, Holton...	Unknown solution.....	Borax, glycerine, extractive present.
29609	Sent in from Indianapolis.	Deodorant.....	Zinc chloride 30 per cent., water 70 per cent.
29652	Sent in from Mishawaka.	Unknown capsules.....	Evidently powdered cubebs.
29659	Sent in from Spencer....	Quinine sulphate.....	Strychnine present.
29660	Sent in from Indianapolis.	Tincture of iodine.....	Phenol absent.
29661	Scheidt & Keilman, Hobart.	Unknown powder.....	Evidently colored salt.
29662	Sent in from Indianapolis.	Unknown tablet.....	Entirely aspirin.
29663	Sent in from Laporte....	Disinfectant.....	Sodium chloride 4.95; total solids, 4.763.
29670	Sent in from Quincy....	Quinine sulphate.....	Strychnine present.
29671	Sent in from Patricksburg.	Quinine sulphate.....	Strychnine present.
29672	Sent in from Patricksburg.	Quinine sulphate.....	Strychnine present.
29673	W. B. Zenor, Center Point	Unknown tablets.....	Morphine, cocaine, heroin, codein absent.
29674	W. B. Zenor, Center Point	Unknown tablets.....	Morphine, cocaine, heroin, codein absent.
29675	W. B. Zenor, Center Point	Unknown tablets.....	Morphine, cocaine, heroin, codein absent.
29685	Sent in from Freedom....	Quinine sulphate.....	Strychnine present.
29686	Sent in from Poland.....	Quinine sulphate.....	Strychnine present.
29692	Sent in from Plymouth....	Unknown substance....	No poisons detected.
29693	Sent in from Gosport....	Quinine sulphate.....	Strychnine present.
29694	Sent in from Richmond...	Rochelle salts.....	Complies with U. S. P.
29697	Board of Pharmacy, Indianapolis.	Unknown liquid.....	Evidently official elixir of five bromides.
29698	Sent in from Vandalia....	Quinine sulphate.....	Strychnine present.
29699	Sent in from Indianapolis.	Unknown powder.....	Evidently a mixture of sodium bicarbonate and citric acid.
29700	Sent in from Stinesville..	Quinine sulphate.....	Strychnine present.
29701	Sent in from Spencer....	Quinine sulphate.....	Strychnine present.
29718	Sent in from Gosport....	Quinine sulphate.....	Strychnine present.
29725	Sent in from Shelbyville..	Unknown solution.....	Alkaloids absent.
29747	Sent in from Indianapolis	Chicken feed.....	Arsenic and strychnine absent.

MISCELLANEOUS DRUG ANALYSES—Continued.

Laboratory No.	Manufacturer or Retailer.	Classification.	Remarks.
29749	Daniel Foy, Goshen....	Clover.....	Arsenic and strychnine absent.
29753	Sent in from Indianapolis	Prescription.....	Promides present.
29782	Sent in from Attica.....	Titanus remedy.....	Potassium bromide 11.0124 per cent.
29783	Sent in from Plymouth..	Unknown capsules.....	Apparently entirely aloes.
29798	Sent in from Monticello..	Labels.....	Common dextrin labels.
29812	Sent in from Marion.....	Unknown solution.....	No alkaloids present.
29847	Sent in from Indianapolis	Snuff.....	Cocaine and morphine absent.
29848	Sent in from Indianapolis	Candy.....	Arsenic present.
29849	Sent in from Indianapolis	Unknown tablets.....	Alkaloids absent.
29851	Enterprise Co., Elkhart..	Unknown tablets.....	No narcotics present.
29852	Sent in from Indianapolis	Unknown powder.....	No alkaloids present.
29853	Sent in from Indianapolis	Disinfectant.....	24 per cent. potassium permanganate.
29854	Sent in from Goshen.....	Rabbit's stomach.....	Strychnine and arsenic absent.
29916	Sent in from Indianapolis	Face powder.....	No poisons detected.
29917	E. A. Jones, Indianapolis	Chicken feed.....	No poisons detected.
29919	Sent in from Auburn....	Unknown solution.....	Contains 30 per cent ethyl ether.
29926	Sent in from Mooresville.	Powder.....	Common salt.
29929	Sent in from Indianapolis	Unknown solution.....	Atropin present.
29930	Sent in from Indianapolis	Unknown solution.....	Is tincture chloride of iron.
29931	Sent in from Shelbyville.	Unknown solution.....	Morphine, cocaine, codein and heroin absent.
29376	Sent in from Muncie.....	Hydrolin.....	A mixture of mineral oil and wood alcohol.
29992	Sent in from Indianapolis	Perfume.....	Wood alcohol present.
29993	Sent in from Ayrshire....	Unknown pills.....	Aloes and pennyroyal present.
29994	Sent in from Indianapolis	Unknown pills.....	Alkaloids absent.
30002	Sent in from Syracuse...	Hair dye.....	Copper and iron chlorides.
30003	Sent in from Elkhart....	Unknown powder.....	Potassium bromide.
30077	Sent in from Terre Haute	Unknown solution.....	Oil of sassafras in acetone.
30078	Sent in from Terre Haute	Unknown tablets.....	Mercuric chloride present.
30099	Sent in from Indianapolis	Neosalvarsan.....	Salvarsan.
30100	Sent in from Indianapolis	Unknown solution.....	Gentian and taraxacum present.
30101	Sent in from Indianapolis	Ammonia.....	Ammonia 2.49 per cent.
30104	Sent in from Peru.....	Unknown pills.....	Morphine and opium absent.
30105	Baloi-Centomides, Lagrange.....	Unknown solution.....	Acetic acid, 11.4 per cent.
30115	Sent in from Fort Wayne	Unknown solution.....	Phosphoric acid.
30116	Sent in from Indianapolis	Unknown solution.....	Alkaloids absent.
30121	Sent in from Terre Haute	Distemper cure.....	Depersants absent.
30142	E. M. Templin, Marion..	Ink remover.....	Sodium hypochlorite.
30143	A. H. Kennedy, Rockport.	Graphite.....	Pure.
30144	E. M. Templin, Marion..	Ink remover.....	Citric or tartaric acid.
30203	Sent in from Petersburg..	Sodium salicylate.....	Legal.
30204	Sent in from Petersburg..	Sodium salicylate.....	Legal.

PATENT MEDICINES.

Forty patent medicines, or preparations of the class commonly known as patent, were examined during the year. The results of the analyses are shown in the table following. Many of these preparations will be included in the Medical Fraud circulars issued from time to time by the State Board of Health.

PATENT MEDICINES.

Laboratory No.	Classification.	Manufacturer or Retailer.	Remarks.
26396	Father John's Medicine.	G. W. Weber Co., Indianapolis	A cod liver oil emulsion.
26426	Casca Royal Pills.....	Haag Drug Store, Indianapolis	Capsicum, cascara and calcium sulphide.
26831	Summer's Rheumatism Cure	Vanderhoof & Co., South Bend	Vaseline, camphor, menthol and eucalyptus.
26836	Summer's Heart, Brain, Nerve Pills	Vanderhoof & Co., South Bend	Asafoetida and valarian.
26885	Mayr's System Tonic....	Bradley Bros., Wabash...	Taraxacum and gentian.
26914	Magic Pill Balm.....	D. & N. Pharmacy, Fort Wayne	Lead, oxide, sulphur, camphor and menthol.
26921	Adrelol.....	D. & N. Pharmacy, Fort	Vaseline, sassafras and menthol.
27923	Winslow's Soothing Syrup	Weber Drug Co., Indianapolis	An anise, caraway and conander syrup.
27925	Kopp's Baby Friend.....	Weber Drug Co., Indianapolis	A sugar syrup, with morphine.
28994	Brighton's W. O. W.....	C. F. Baron, Indianapolis.	Olive oil, eucalyptus and cajaput oils.
29000	Borst's C. A. C.....	Borst Drug Co., Indianapolis	Eucalyptus, olive and cajaput oils.
29032	Kopp's Baby Friend.....	A. K. Drug Co., Indianapolis	A sugar syrup with morphine.
29065	Am-O-Lox.....	W. W. Reed & Son, Winchester	Salicylic acid, alcohol, oil of wintergreen.
29066	Am-O-Lox Ointment.....	W. W. Reed & Son, Winchester	Zinc oxide, salicylic acid, oil of wintergreen.
29123	Pinex Cold Tablets.....	Pinex Co., Fort Wayne...	Camphor, quinine present.
29131	Penslar Cold Breakers...	Hook Drug Co., Indianapolis	Quinine, sulphate, sodium salicylate, aloes and capsicum.
29133	Lux Cold Tablets.....	Lux Remedy Co., Indianapolis	Capsicum, quinine and phenolphthalein present.
29135	DeWitt's Cold Tablets...	H. Huder, Indianapolis...	Camphor, aloin and capsicum present.
29140	Rexall Grippe Pills.....	J. Huder, Indianapolis...	Arsenic and belladonna present.
29143	Campho Quino.....	F. E. Ernle Meyer, Indianapolis	Quinine, camphor present.
29189	Obesity.....	Lee Turman, Logansport.	Sugar, sodium bicarbonate, tartaric acid, potassium carbonate, magnesium sulphate, sodium chloride.
29190	Croup Salve.....	Lee Turman, Logansport..	Camphor, methol and eucalyptus oils.
29199	Mange Remedy.....	W. H. Porter & Co., Logansport	A coal tar disillate.
29203	Headache Remedy.....	Sent in from Albany.....	Acetanilid 2.17 grains per tablet.
29242	Croup oil.....	B. B. Reeder, Terre Haute	Camphorated oil.

PATENT MEDICINES—Continued.

Laboratory No.	Classification.	Manufacturer or Retailer.	Remarks.
29257	Hoff's Consumption Cure	J. D. Bartlett, Lafayette..	Morphine present.
29264	Croup Remedy.....	Sent in from Bedford.....	Morphine present.
29272	Castoria.....	Sent in from Laporte.....	Alcohol, 10 per cent.
29273	Liniment.....	Sent in from Laporte.....	Alcohol, 44 per cent.; opium, $\frac{1}{2}$ grain per oz.
29332	Gonorrhea Remedy.....	Sent in from Dupont.....	Camphorated oil pres- ent.
29333	Gonorrhea Remedy.....	Sent in from Dupont.....	An organic compound of silver.
29461	Saxo Salve.....	H. J. Huder, Indianapolis	Zinc oxide, sulphur and oil of winter- green.
29523	Wine of Cardui.....	Haag Drug Store, In- dianapolis	Alcohol, 19.57.
29575	Hair Dye.....	Sent in from Geneva.....	Sodium sulphide, lead acetate present.
29588	Wonder Oil.....	Sent in from Winamac ...	A dilute solution of oil of tar.
29590	Wine of Cardui.....	Jones Bros., Fowler.....	Alcohol, 21.90 per cent
29592	Doan's Kidney Pills.....	Sent in from Noblesville..	Oil of juniper and po- tassium nitrate trate present.
29593	Wine of Cardui.....	B. S. Gordon, Eagletown..	Alcohol 14.77 per cent.
29603	Wine of Cardui.....	W. W. Mendenhall, West- field	Alcohol 19.44 per cent.
30191	Wine of Cardui.....	Sent in from Aurora.....	Alcohol 19.07 per cent,

PROSECUTIONS.

But 25 prosecutions were brought during the year for violation of the Pure Food and Drug and Sanitary Food Law. This is by far the smallest number of cases concluded since the passage of the original food law, and may, we believe, be taken as evidence that it is no longer necessary to resort to the police court to secure compliance with the law. Eight cases were brought on the allegation that the defendant sold milk containing visible dirt. In each case a conviction was secured. One case involved the sale of meat exposed, in violation of the sanitary law, and four for the maintenance of unsanitary conditions in meat markets and groceries. One case was brought under the Weights and Measures Law and involved the sale of corn meal which weighed less than the required number of pounds. In three cases the defendant was charged with and convicted of selling beverages containing benzoate of soda. Seven cases involved the sale of milk which was either watered or skimmed.

This list includes only the prosecutions filed by inspectors of the department. Many cases of law violation were successfully handled by local officials.

The total amount of fines and costs levied during the year, amounted to \$546.30.

PROSECUTIONS.

TABLE SHOWING CHARACTER AND NUMBER OF CASES.

<i>Character.</i>	<i>Number.</i>
Dirty milk.....	6
Milk containing added water.....	3
Milk below standard.....	4
Exposed meats.....	1
Maintaining unsanitary conditions.....	4
Beverages containing benzoate of soda.....	3
Misbranding beer.....	1
Misbranding drug.....	1
Misbranding whiskey.....	1
Selling short weight corn meal.....	1
Total....	25

LIST OF PROSECUTIONS FROM OCTOBER 1, 1914, TO OCTOBER 1, 1915.

County.	Name and Address of Defendant.	Why Prosecuted.	Date of Trial.	Disposition of Case.
Bartholomew...	R. H. Smith, Columbus	Selling watered milk.	12- 9-14	Fines and costs, \$20.00.
Bartholomew...	R. W. Weekly, Columbus	Keeping an unsanitary grocery.	12- 5-14	Fines and costs, \$20.00.
Fulton.....	Progress Bottling Works, Rochester.	Selling orange cider containing benzoate of soda.	12-30-14	Fines and costs, \$20.00.
Fulton.....	Q. A. Vandergrift, Rochester.	Selling orange cider containing benzoate of soda.	2- 7-15	Fines and costs, \$20.00.
Fulton.....	Anchor Milling Co., Rochester.	Selling corn meal—short weight.	4-13-15	Fines and costs, \$19.30.
Floyd.....	Ophelia O'Brien, New Albany	Selling skimmed milk for whole milk.	9- 2-15	Fines and costs, \$19.30.
Gibson.....	George W. Gardner, Owensville.	Selling pop containing benzoate.	12-31-14	Fines and costs, \$22.25.
Greene.....	Dr. Benjamin Rush, Bloomfield.	Misbranding drug.	4-19-15	Fines and costs, \$20.00.
Hamilton...	Guy Lord, Noblesville.	Selling compound whiskey not labeled.	5-25-15	Fines and costs, \$20.00.
Laporte.....	W. E. Kalice, Westville.	Returning empty ice cream cans not washed.	8-14-15	Fines and costs, \$23.00.
Marion.....	John Heugler, Indianapolis.	Selling milk containing visible dirt.	2-14-15	Fines and costs, \$24.00.
Monroe.....	John Shovel, Bloomington.	Hauling meat through the streets not covered.	1-18-15	Fines and costs, \$20.50.
Vigo.....	Fell Bros., Terre Haute.	Selling dirty milk.	4-28-15	Fines and costs, \$27.85.
Vigo.....	James A. Miller, Terre Haute.	Refrigerator unsanitary—20 pounds meat spoiled.	4-29-15	Fines and costs, \$21.50.
Vigo.....	Walter E. Thompson, Terre Haute.	Unsanitary meat market and six decomposed chickens condemned.	4-30-15	Fines and costs, \$21.50.
Vigo.....	M. C. Anderson, Terre Haute.	Selling dirty milk.	5-12-15	Fines and costs, \$21.50.
Vigo.....	John Confrin, Terre Haute.	Selling dirty milk.	5-12-15	Fines and costs, \$21.50.
Vigo.....	J. Frye and Son, Terre Haute.	Selling milk below standard.	5-12-15	Fines and costs, \$21.50.
Vigo.....	Kiser Brothers, Terre Haute.	Selling milk below standard.	5-12-15	Fines and costs, \$21.50.
Vigo.....	Pierce and Berry, Terre Haute.	Selling milk low in butter fat.	5-12-15	Fines and costs, \$21.50.
Vigo.....	George Poullis, Terre Haute.	Selling watered milk.	5-12-15	Fines and costs, \$21.50.
Vigo.....	Henry Stouffers, Terre Haute.	Selling dirty milk.	5- 4-15	Fines and costs, \$21.50.
Vigo.....	Terre Haute Pure Milk and Ice Cream Company, Terre Haute.	Selling dirty milk.	5-10-15	Fines and costs, \$21.50.
Vigo.....	Charles Hemming, Terre Haute.	Selling adulterated and dirty milk.	5-11-15	Fines and costs, \$21.50.
Washington...	James Dalton, Salem.	Misbranding beer (second offense).	9-25-15	Fines and costs, \$33.60.

SANITARY INSPECTIONS.

The great importance of the work of the sanitary inspector is better realized each year the work is carried on. The early struggles against the unsanitary baker and the grocer, and the dirty dairyman, although they seemingly accomplish little, pave the way to the splendid comprehensive sanitary control now in force throughout the State. The work of the State Board of Health and of the food inspectors as herein recorded is of course but a fraction of the work being done in Indiana, as every conscientious health officer carries on from day to day an inspection service which gradually but surely improves sanitary conditions in his community. Nearly every city in the State is doing some form of inspection work. Many cities have a corps of sanitary officers who devote their entire time to the correction of unsanitary conditions. Other cities combine the work of the sanitary officer and meat and milk inspector, and in still others the police are very properly required to report unsanitary conditions and compel compliance with the sanitary laws and ordinances.

It is no longer possible for the conditions of filth and uncleanness that once prevailed to exist in the present day grocery and bakeshop. Even the slaughterhouse, once thought impossible of improvement, is now usually conducted in compliance with the laws of sanitation and decency. The dairyman, as will elsewhere be shown, is interested in producing milk of quality as well as quantity, and scores of dairies have recently been devoted for the production of high-grade milk under conditions which approach the ideal.

During the past year a comprehensive survey has been made of canning factories. In his study of these factories Inspector Bruner visited every factory in the State, talked with the owners and operators, suggested improvements and gave orders which in spite of an unsatisfactory year for the industry, were almost without exception cordially received and carefully followed. What has been done in the development of a better canning industry can be done equally as well in the development of other industries which have to do with the manufacture and distribution of the food supply. It is proposed in the coming year to investigate thoroughly the conditions under which cream is produced and butter manufactured.

Until recently it has not been possible to make headway in the enforcement of that section of the Sanitary Food Law which prohibits the employment of diseased persons. To say that the consumptive shall not work in a food factory is good, but unless the

physician and health officer determines the disease and report the case, too frequently the sufferer will continue to work even after he knows that he is diseased. Unfortunately but few of the communicable diseases are reportable, and the sickness of the patient is a secret held inviolate by his physician. The veil of secrecy protects the syphilitic from the judgment of his fellows. But more than that it immunizes him against the operation of the law which would deny him employment. This is altogether wrong. The rights of the individual to suffer his disease in private are not to be considered as against the right of those with whom he comes in contact to know that he is a leper to be isolated until no longer a menace to his fellows.

Our charitable compassion for the invalid, cultivated for thousands of years until it has attained the attributes of a virtue, should I believe, be supplanted by a feeling of contempt and scorn for the person whose uncleanness breeds disease within him and whose immorality earns its penalty. The bowels of compassion of the health officer should be replaced by righteous wrath whenever he finds a diseased person working with food. Those who accept the average man as a fairly able bodied citizen, seldom realize how far below a condition of physical soundness and efficiency he really is.

I would not make the food inspector a pathological detective, but I would make it incumbent upon every physician who knows of a case of infectious or contagious disease to report that case, that the health of the community may be safeguarded, and I would make it the duty of the employer to require every person who labors for him to present a certificate of health at frequent intervals. The healthy man will raise no objection to declaring his condition. The unhealthy will be brought to realize that it is best to keep well if to become ill means loss of employment.

The biggest problem of the food official is that of protecting the food of the consumer not against moulds, not against unsoundness, not against preservatives, but against contamination with the germs of disease which may be planted therein by the workmen.

By the side of such a problem the sight of grown men battling with the demon of albumin in baking powder; of ponderous committees working for weeks on a definition of egg noodles; of hords of inspectors waging bitter war against the milkman's pump and of learned lawyers quibbling over the phraseology of a label, loom up as absurdities, ridiculous and laughable examples of an utter lack of sense of proportion.

When we realize how few years we have been regarding health as

an essential to employment, and sum up the results of our crusade, we find we have really gone far. Several large industries recognize the necessity for employing healthy workmen and provide the means by which they can secure them. The largest corporation in the United States, The Pennsylvania Railroad, has for two years made frequent examinations into the condition of the health of all employees in the dining cars and Pullman car service. Progressive hotel managers everywhere are recognizing their responsibilities to the traveling public they serve. But of greater moment even than this record of achievement is the fact that we are slowly but surely breaking down the practice of the medical profession to refuse the public information which it has a right to receive. Since ultimately the employee must pass under the inspection of the physician, we can only be fully successful in our crusade when the student in training for service in the field of medicine is taught more positively than now that while his first duty may be to the patient upon whom he waits, his larger responsibility is to the public whom it is his duty to protect.

During the year the inspectors visited 482 different cities and towns for the purpose of making the inspections required under the sanitary food law. In these cities and towns live 1,372,892 people but since most of the cities are distributing centers through which the food supply passes to the country districts, it is probable that in their work the inspectors studied the conditions under which the food supply of 95 per cent of our population was produced and distributed. This of course applies only to the inspections of goods manufactured within the State. The conditions under which goods are manufactured outside the State cannot be regulated under our laws but fortunately is at the present time well cared for by the inspectors who are enforcing the Federal Food and Drugs Act.

Of the 10,809 inspections made during the year but 115 places were reported to be in excellent condition. This is a very small percentage but the requirements for a score of excellent are so high that it is only the unusual place, backed both by money and intelligence and constant effort, that can earn the score. The real story of our sanitary condition is told by the number of places reported as in good condition; 5,989 places were reported as good; 4,345 places were fair; but 386 poor and 74 bad. A study of conditions in the several industries is of interest. As has always been the case the dairies run the lowest score. Of the 445 dairies visited not one was scored excellent. One hundred and five only were even in good condition; 183 were reported as fair; 112 poor and 45 bad. It is interesting to note that although but 445 of the 10,809 inspections were dairies,

45 of the 74 bad scores were earned by dairymen, or in other words, 4 per cent of the inspections furnished 60 per cent of the bad scores.

Of the 3,783 grocery stores visited 46 were scored excellent; 2,151 good 1,534 fair, 48 poor and but 4 bad. This is a splendid record and the grocer may well be proud of the way his business associates have responded to the call for more sanitary methods at the grocery store.

Seventeen of the 1,444 meat markets inspected were listed excellent. Eight hundred and six were in good condition; 588 were fair; 31 poor and but 2 bad. The meat market is rapidly improving. When but 31 of the markets visited could be listed as poor and but 2 as bad we may be reasonably sure that our meat comes from sanitary shops.

Of the 1,484 drug stores visited 12 were rated excellent, 1,158 were good, 308 were fair, but 6 were poor and none were bad. The drug store as it is now operated merits little criticism. The places scored fair with a little extra care at the soda fountain will earn promotion into the better grade.

Of the 1,519 bakeries and confectioneries inspected 23 were rated excellent, 922 were good, 528 fair and 46 poor. No scores of bad were reported.

Nine of the 1,192 hotels and restaurants visited were in excellent condition, 464 were rated good, 670 fair, 45 poor and 4 bad. Hotels and restaurants vie with the dairy for a position at the foot of the line. The restaurant proprietor, especially in the smaller towns, knows little of the business of serving food and less of the practice of preparing it in a cleanly fashion.

One hundred and sixty-three ice cream parlors were visited. Two were rated excellent, 62 good, 97 fair and 2 poor.

Of the 33 ice cream factories inspected one was excellent, 14 good and 18 fair. None were rated poor or bad.

Of the 63 flour mills visited 49 were in good condition, 12 were rated fair and 2 poor.

Two hundred and forty-one canning factories were inspected. Four were classed as excellent, 84 were rated good, 88 fair, 60 poor and 5 bad. A more complete analysis of these inspections will be found under the heading "Inspection of Canning Factories."

Of the 26 saloons visited for the purpose of inspection, none were in excellent condition. None were even good. Six were fair, 10 poor and 10 bad. As a food distributing establishment the saloon is entitled to severe criticism and will hereafter receive special attention. Under the Pure Food Law, the saloon, the restaurant and the drug store occupy the same position, and we shall require of the saloon

keeper as sanitary conditions back of his bar as we now insist upon at the soda fountain. We shall insist upon the same degree of health in employees and in fact the same complete requirement with every provision of the sanitary food law.

CITIES AND TOWNS VISITED AND INSPECTED, 1914-1915.

City or Town.	County.	Number Times Inspected.	Population.
Aberdeen.....	Switzerland.....	1	
Acton.....	Marion.....	1	460
Adams.....	Decatur.....	1	378
Adamsboro.....	Cass.....	1	143
Akron.....	Fulton.....	1	1,000
Albany.....	Delaware.....	1	1,289
Alexandria.....	Madison.....	3	5,096
Alert.....	Decatur.....	1	206
Alpine.....	Fayette.....	2	30
Alquina.....	Fayette.....	1	111
Allensville.....	Switzerland.....	1	52
Ambia.....	Benton.....	1	359
Amboy.....	Miami.....	1	521
Amity.....	Johnson.....	1	60
Anderson.....	Madison.....	2	23,396
Andersonville.....	Franklin.....	1	348
Andrews.....	Huntington.....	1	957
Angola.....	Steuben.....	1	2,810
Arcadia.....	Hamilton.....	2	990
Argos.....	Marshall.....	1	1,088
Arlington.....	Rush.....	1	450
Aroma.....	Hamilton.....	1	125
Atlanta.....	Hamilton.....	1	876
Auburn.....	Dekalb.....	1	4,127
Aurora.....	Dearborn.....	2	4,410
Austin.....	Scott.....	1	398
Azalia.....	Bartholomew.....	1	110
Bargersville.....	Johnson.....	1	290
Bascom.....	Ohio.....	1	90
Batesville.....	Ripley.....	1	2,151
Bath.....	Franklin.....	1	125
Bear Branch.....	Ohio.....	1	80
Beehunter.....	Greene.....	1	20
Bedford.....	Lawrence.....	3	8,716
Bellevue.....	Jefferson.....	1	50
Benham.....	Ripley.....	2	135
Benningham.....	Switzerland.....	1	127
Bethlehem.....	Clark.....	1	132
Bicknell.....	Knox.....	2	2,804
Big Spring.....	Boone.....	1	50
Blankenship.....	Martin.....	1	25
Blocher.....	Scott.....	1	100
Bloomfield.....	Greene.....	1	2,069
Bloomington.....	Monroe.....	3	9,782
Blooming Grove.....	Franklin.....	1	120
Blue Ridge.....	Shelby.....	1	200
Bluff Creek.....	Johnson.....	1	25
Bluffton.....	Wells.....	2	5,187
Boggs town.....	Shelby.....	1	175
Boswell.....	Benton.....	1	814
Bowling Green.....	Clay.....	1	336
Boonville.....	Warrick.....	2	4,310
Brewersville.....	Jennings.....	1	150
Bristol.....	Elkhart.....	1	535
Brookville.....	Franklin.....	2	2,169
Brownsville.....	Union.....	1	300
Bud.....	Johnson.....	1	23
Burney.....	Decatur.....	1	200
Butler.....	Dekalb.....	1	1,818
Butler ville.....	Jennings.....	1	400
Calloway.....	Jefferson.....	1	25
Canaan.....	Jefferson.....	1	199
Cannelton.....	Perry.....	1	2,130

CITIES AND TOWNS VISITED AND INSPECTED, 1914-1915.

City or Town.	County.	Number Times Inspected.	Population.
Carbondale.....	Warren.....	1	65
Carmel.....	Clark.....	1	626
Carthage.....	Rush.....	1	873
Cedar Grove.....	Franklin.....	1	185
Center Point.....	Clay.....	1	414
Centersquare.....	Switzerland.....	1	64
Charlottesville.....	Hancock.....	2	500
Chelsea.....	Jefferson.....	1	45
Charlestown.....	Clark.....	1	864
Chesterville.....	Dearborn.....	1	75
China.....	Jefferson.....	1	250
Chrisney.....	Spencer.....	1	524
Cicero.....	Hamilton.....	1	990
Clare.....	Hamilton.....	2	41
Clarksburg.....	Decatur.....	1	454
Clifford.....	Bartholomew.....	1	210
Clifty.....	Decatur.....	1	211
Clinton.....	Vermillion.....	1	7,553
Coal Bluff.....	Vigo.....	1	550
College Corner.....	Union.....	1	
Columbus.....	Bartholomew.....	3	9,085
Commiskey.....	Jennings.....	1	150
Connorsville.....	Fayette.....	1	8,098
Coon Hollow.....	Jefferson.....	1	
Converse.....	Miami.....	1	1,164
Corydon.....	Harrison.....	2	1,703
Correct.....	Ripley.....	2	32
Crawfordsville.....	Montgomery.....	1	9,371
Cross Plains.....	Ripley.....	1	198
Crown Point.....	Lake.....	1	2,526
Culver.....	Marshall.....	1	810
Dabney.....	Ripley.....	1	80
Dayton.....	Tippecanoe.....	1	550
Decatur.....	Adams.....	3	4,471
Delaware.....	Dearborn.....	1	250
Deputy.....	Jefferson.....	1	300
Dewersburg.....	Franklin.....	1	
Dillsboro.....	Dearborn.....	2	425
Domestic.....	Wells.....	1	50
Dublin.....	Wayne.....	1	704
Dunkirk.....	Jay.....	1	3,031
Dunlapsville.....	Union.....	1	122
Durbin.....	Hamilton.....	1	25
Eagletown.....	Hamilton.....	1	275
East Enterprise.....	Switzerland.....	1	150
Eaton.....	Delaware.....	1	1,428
Eden.....	Hancock.....	1	100
Edinburg.....	Johnson.....	1	2,040
Ekin.....	Tipton.....	1	175
Elkhart.....	Elkhart.....	5	20,918
Elizabethtown.....	Bartholomew.....	1	350
Ellettsville.....	Monroe.....	1	676
Elnora.....	Davless.....	1	961
Everton.....	Fayette.....	1	150
Elrod.....	Ripley.....	1	150
Elwood.....	Madison.....	2	11,028
English.....	Crawford.....	2	75
Enochsville.....	Franklin.....	1	
Evansville.....	Vanderburg.....	3	73,903
Fairfield.....	Franklin.....	2	200
Fairland.....	Shelby.....	1	600
Fairmount.....	Grant.....	1	2,508
Fairview.....	Switzerland.....	1	100
Falmouth.....	Rush.....	1	200
Farmersburg.....	Sullivan.....	1	1,115
Farmiland.....	Randolph.....	1	907
Farmer's Retreat.....	Dearborn.....	1	130
Faulkner.....	Jefferson.....	1	
Fenns.....	Shelby.....	1	50
Fiat.....	Jay.....	1	75
Finkes Church.....	Ripley.....	1	
Finney.....	Warren.....	1	

CITIES AND TOWNS VISITED AND INSPECTED, 1914-1915.

City or Town.	County.	Number Times Inspected.	Population.
Fishers.	Hamilton.	2	188
Flat Rock.	Shelby.	1	350
Flora.	Carroll.	1	1,388
Florence.	Switzerland.	1	240
Fontanet.	Vigo.	1	570
Forest.	Clinton.	1	
Forest Hill.	Decatur.	1	111
Fort Donaldson.	Jefferson.	1	
Fort Wayne.	Allen.	4	71,457
Fortville.	Hancock.	3	1,174
Fountaintown.	Shelby.	1	350
Fowler.	Benton.	1	1,491
Frankfort.	Clinton.	1	8,834
Franklin.	Johnson.	2	4,502
Fredericksburg.	Washington.	1	271
French.	Ohio.	1	10
French Lick.	Orange.	1	1,803
Freetown.	Jackson.	1	350
Friendship.	Ripley.	2	250
Gadsden.	Boone.	1	50
Gaff.	Ripley.	1	24
Galveston.	Cass.	1	658
Garden City.	Bartholomew.	1	
Gary.	Lake.	3	32,802
Garrett.	Dekalb.	1	4,149
Gas City.	Grant.	2	3,224
Gaynorsville.	Decatur.	1	25
Gem.	Hancock.	1	
Geneva.	Adams.	1	1,140
Gill.	Jefferson.	1	
Glenwood.	Fayette.	2	266
Goshen.	Elkhart.	4	8,514
Gosport.	Owen.	2	776
Government Dam.		1	
Grayford.	Jennings.	1	35
Grammer.	Bartholomew.	1	125
Greenfield.	Hancock.	2	4,448
Greenhill.	Warren.	1	170
Greensburg.	Decatur.	1	5,420
Gwynneville.	Shelby.	1	150
Hamburg.	Franklin.	1	79
Hammond.	Lake.	2	24,341
Hartford City.	Blackford.	1	6,187
Hartsville.	Bartholomew.	2	358
Hedrick.	Warren.	1	128
Henderson.	Rush.	1	70
Horace.	Decatur.	1	50
Hobart.	Lake.	1	1,753
Hope.	Bartholomew.	1	1,223
Holton.	Ripley.	1	350
Homer.	Rush.	1	150
Huntingburg.	Dubois.	1	2,464
Huntington.	Huntington.	2	10,584
Helmsburg.	Brown.	1	150
Hanover.	Jefferson.	1	356
Hayden.	Jennings.	1	375
Independence.	Warren.	1	300
Indianapolis.	Marion.	9	259,442
Jackson Corner.	Ripley.	1	
Jalapa.	Grant.	1	90
Janesville.	Bartholomew.	1	
Jasonville.	Greene.	2	3,295
Jasper.	Dubois.	2	2,196
Jeffersonville.	Clark.	1	10,412
Jennie Lynn.	Jefferson.	1	
Jolietville.	Hamilton.	1	250
Jonesboro.	Grant.	1	1,573
Judyville.	Warren.	1	75

CITIES AND TOWNS VISITED AND INSPECTED, 1914-1915.

City or Town.	County.	Number Times Inspected.	Population.
Kendallville.....	Noble.....	2	4,981
Kentland.....	Jefferson.....	1	1,209
Keystone.....	Wells.....	1	242
Kitchel Corner.....	Union.....	1	50
Knox.....	Starke.....	1	1,644
Kokomo.....	Howard.....	3	19,570
Kramer.....	Warren.....	1	212
Kyle.....	Dearborn.....	1	
Lafayette.....	Tippécanoe.....	1	20,865
Lafountaine.....	Wabash.....	2	683
Lagrange.....	Lagrange.....	1	1,772
Lagro.....	Wabash.....	2	463
Lamb.....	Switzerland.....	1	26
Lancaster.....	Jefferson.....	1	110
Landessville.....	Grant.....	1	
Lapel.....	Madison.....	2	1,045
Laporte.....	Laporte.....	4	11,925
Laughery.....	Ohio.....	1	
Lawrenceburg.....	Dearborn.....	2	3,930
Lebanon.....	Boone.....	2	5,874
Leesburg.....	Kosciusko.....	1	401
Letts.....	Decatur.....	1	200
Letts Corner.....	Decatur.....	1	200
Lewis.....	Vigo.....	1	250
Lewis Creek.....	Shelby.....	1	85
Lexington.....	Scott.....	1	350
Liberty.....	Union.....	1	1,338
Liberty Center.....	Wells.....	1	351
Ligonier.....	Noble.....	2	2,173
Lincoln City.....	Spencer.....	1	140
Lockspring.....	Ripley.....	1	200
Logansport.....	Cass.....	2	20,186
Loogootee.....	Martin.....	2	2,154
London.....	Shelby.....	1	200
Lovett.....	Jennings.....	1	75
Lyons.....	Greene.....	1	993
Lyons Station.....	Fayette.....	1	148
Lynn.....	Randolph.....	1	917
Madison.....	Jefferson.....	2	6,934
Manchester.....	Dearborn.....	1	350
Manilla.....	Rush.....	1	516
Manville.....	Jefferson.....	1	35
Marble Corner.....	Grant.....	1	75
Marengo.....	Crawford.....	1	686
Markland.....	Switzerland.....	1	200
Markle.....	Huntington.....	1	820
Marble Hill.....	Jefferson.....	1	100
Marion.....	Grant.....	6	20,167
Maxwell.....	Hancock.....	1	350
Mays.....	Rush.....	1	225
Meltzer.....	Shelby.....	1	
McCordsville.....	Hancock.....	1	250
McNatts.....	Wells.....	1	50
Mentone.....	Kosciusko.....	1	728
Metamora.....	Franklin.....	1	588
Miami.....	Miami.....	1	300
Michigan City.....	Laporte.....	5	20,695
Michigantown.....	Clinton.....	1	395
Middlebury.....	Elkhart.....	1	600
Middlefork.....	Jefferson.....	1	
Middletown.....	Henry.....	2	1,175
Midford.....	Kosciusko.....	1	814
Milroy.....	Rush.....	1	770
Millersburg.....	Elkhart.....	1	428
Milton.....	Wayne.....	1	601
Milan.....	Ripley.....	2	557
Milroy.....	Rush.....	1	770
Mishawaka.....	St. Joseph.....	5	11,886
Mitchell.....	Lawrence.....	2	3,438
Millhousen.....	Decatur.....	1	211
Mixersville.....	Franklin.....	1	75
Monroeville.....	Allen.....	1	910
Montgomery.....	Davless.....	1	511

CITIES AND TOWNS VISITED AND INSPECTED, 1914-1915.

City or Town.	County.	Number Times Inspected.	Population.
Mohawk	Hancock	1	200
Montpeller	Blackford	1	2,783
Morgantown	Morgan	1	667
Morningside	Johnson	1	
Morristown	Shelby	1	622
Moorefield	Switzerland	1	94
Mooreshill	Dearborn	1	424
Mount Carmel	Franklin	1	142
Mount Lookout	Ripley	1	
Mount Sterling	Switzerland	1	80
Mount Vernon	Jennings	2	5,735
Mount Zion	Wells	1	250
Muncie	Delaware	6	25,229
Mulberry	Clinton	1	750
Napoleon	Ripley	1	520
Nappanee	Elkhart	1	2,260
Nashville	Brown	1	354
Nebraska	Jennings	1	153
Needham	Johnson	1	150
New Albany	Floyd	1	20,629
New Carlisle	St. Joseph	2	612
Newburg	Warrick	2	1,097
New Bethel	Marion	1	
New Harmony	Posey	1	1,229
New Haven	Allen	1	1,038
New Castle	Henry	1	9,446
New Marlon	Ripley	1	225
New Palestine	Hancock	2	450
New Point	Decatur	1	341
New Salem	Rush	1	175
New Trenton	Franklin	1	200
New Washington	Jefferson	1	300
Ninneva	Johnson	1	250
Noblesville	Hamilton	2	5,185
Norristown	Shelby	2	
North Judson	Starke	1	1,143
North Landing	Ohio	1	
North Madison	Jefferson	1	860
North Manchester	Wabash	2	2,428
North Vernon	Jennings	2	2,915
Nottingham	Wells	1	100
Oak Forest	Franklin	1	125
Ogilville	Bartholomew	1	80
Oldenburg	Franklin	1	956
Omega	Hamilton	1	94
Old St. Louis	Bartholomew	1	
Orland	Steuben	1	575
Orleans	Orange	1	1,367
Orestes	Madison	1	420
Osceola	St. Joseph	1	180
Osgood	Ripley	3	1,169
Ossian	Wells	1	661
Otterbein	Benton	1	652
Otto	Clark	1	60
Owensburg	Green	1	428
Owensville	Gibson	1	1,237
Oxford	Benton	1	1,010
Paoli	Orange	3	1,278
Paris Crossing	Jennings	1	380
Patriot	Switzerland	1	310
Paynesville	Jefferson	1	
Pefferstown	Franklin	1	
Pennville	Jay	1	890
Pence	Warren	1	150
Peoria	Franklin	1	50
Perkinsville	Madison	1	318
Peru	Miami	1	12,752
Petersburg	Pike	1	2,170
Petersville	Bartholomew	1	50
Petroleum	Wells	1	300
Philadelphila	Hancock	1	182
Philmath	Union	1	50

CITIES AND TOWNS VISITED AND INSPECTED, 1914-1915.

City or Town.	County.	Number Times Inspected.	Population.
Phoenix	Sullivan	1	
Pine Village	Warren	1	352
Pierceville	Ripley	3	150
Pleasant	Switzerland	1	50
Plymouth	Marshall	3	3,910
Poneto	Wells	2	308
Portland	Jay	2	5,282
Poseyville	Posey	1	780
Princeton	Gibson	1	6,608
Prescott	Shelby	1	105
Providence	Johnson	1	
Quakertown	Union	1	75
Queensville	Jennings	1	110
Quercus Grove	Switzerland	1	40
Rainesville	Warren	1	120
Raleigh	Rush	1	160
Ramsey	Harrison	1	150
Raymond	Franklin	1	60
Red Key	Jay	1	1,714
Rexville	Ripley	1	80
Riceville	Crawford	1	40
Richmond	Wayne	3	23,960
Ridgeville	Randolph	1	1,302
Rising Sun	Ohio	2	1,513
Roanoke	Huntington	2	699
Rochester	Fulton	2	3,364
Rockdale	Franklin	1	30
Rocklane	Johnson	1	95
Rockport	Spencer	2	2,736
Rockville	Parke	1	1,943
Roseberry	Union	1	
Rosston	Boone	1	100
Rugby	Bartholomew	2	55
Rush Branch	Jefferson	1	
Rushville	Rush	2	5,077
Russlerville	Howard	1	603
St. Louis Crossing	Bartholomew	1	200
St. Mary	Franklin	1	
St. Maurice	Decatur	1	125
St. Paul	Decatur	1	1,050
Salem	Washington	1	2,283
Saluda	Jefferson	1	50
San Jacinto	Jennings	1	
Samaria	Johnson	1	95
Sandusky	Decatur	1	140
San Pierre	Starke	1	350
Sardina	Decatur	1	175
Scipio	Jennings	1	200
Scottsburg	Scott	1	1,669
Sellersburg	Clark	1	676
Seymour	Jackson	1	6,305
Sexton	Rush	1	120
Sharpstown	Franklin	1	30
Sharpsville	Tipton	1	550
Shelburn	Sullivan	1	2,055
Shelbyville	Shelby	1	10,432
Sheldon	Allen	1	200
Sheridan	Hamilton	2	1,768
Shirley	Hancock	1	1,519
Shipshewana	Lagrange	1	
Shoals	Martin	1	1,015
Sims	Grant	1	250
Sloan	Warren	1	
Smith Valley	Johnson	1	90
Somerset	Wabash	1	320
South Bend	St. Joseph	2	61,812
Sparta	Dearborn	2	60
Spencer	Owen	1	2,150
State Line	Warren	1	194
Strawton	Hamilton	1	89
Stony Point	Jefferson	1	50
Sullivan	Sullivan	1	4,511

CITIES AND TOWNS VISITED AND INSPECTED, 1914-1915.

City or Town.	County.	Number times Inspected.	Population.
Summitville.....	Madison.....	1	1,387
Stones Crossing.....	Johnson.....	1	70
Sunman.....	Ripley.....	1	353
Swayzee.....	Grant.....	1	836
Sweet Ireland.....	Bartholomew.....	1	
Sweeters.....	Grant.....	1	700
Switz City.....	Greene.....	1	620
Syracuse.....	Kosciusko.....	1	1,379
Taylorville.....	Bartholomew.....	1	450
Terre Haute.....	Vigo.....	3	66,749
Tiosa.....	Fulton.....	1	125
Tipton.....	Tipton.....	2	4,199
Titusville.....	Ripley.....	1	30
Trafalgar.....	Johnson.....	1	350
Upland.....	Grant.....	1	1,080
Valparaiso.....	Porter.....	1	6,987
Van Buren.....	Grant.....	1	1,189
Vera Cruz.....	Wells.....	1	133
Vernon.....	Jennings.....	1	453
Versailles.....	Ripley.....	2	486
Vevay.....	Switzerland.....	2	1,256
Vincennes.....	Knox.....	2	16,751
Volga.....	Jefferson.....	1	61
Wabash.....	Wabash.....	1	8,687
Walesboro.....	Bartholomew.....	1	
Walkerton.....	St. Joseph.....	2	1,003
Walton.....	Dearborn.....	1	579
Warden.....	Shelby.....	1	
Warren.....	St. Joseph.....	1	
Warsaw.....	Kosciusko.....	1	4,606
Warrington.....	Hancock.....	1	200
Waterloo.....	Dekalb.....	1	1,167
Washington.....	Davies.....	3	7,854
Waverly.....	Morgan.....	1	130
Waymansville.....	Bartholomew.....	1	150
West Baden.....	Orange.....	1	746
Westfield.....	Hamilton.....	1	700
West Harrison.....	Dearborn.....	1	281
West Lafayette.....	Tippecanoe.....	1	3,867
West Lebanon.....	Warren.....	1	642
Westphalia.....	Knox.....	2	175
Westport.....	Decatur.....	2	675
Whitcomb.....	Franklin.....	1	
Whiteland.....	Johnson.....	1	343
Whiting.....	Lake.....	1	6,587
Williams.....	Lawrence.....	1	200
Williamstown.....	Decatur.....	1	130
Wilkinson.....	Hancock.....	1	420
Wilmington.....	Dearborn.....	1	140
Winslow.....	Pike.....	1	932
Willow Branch.....	Hancock.....	1	140
Wilson.....	Shelby.....	1	28
Winthrop.....	Warren.....	1	95
Wirt.....	Jefferson.....	1	55
Wisburg.....	Dearborn.....	1	
Witt.....	Union.....	1	
Woodbury.....	Hancock.....	1	78
Worthington.....	Greene.....	1	1,732
Wright Corners.....	Dearborn.....	1	80
Wynn.....	Franklin.....	1	54
Total population of cities and towns visited.....			1,372,892
Different cities and towns visited.....			482

SUMMARY OF INSPECTIONS.

Inspections.	Number In- spected.	Number Ex- cellent.	Number Good.	Number Fair.	Number Poor.	Number Bad.
Dairies.....	445		105	183	112	45
Grocery stores.....	3,783	46	2,151	1,534	48	4
Meat markets.....	1,444	17	806	588	31	2
Drug stores.....	1,484	12	1,158	308	6	
Bakeries and confectioneries.....	1,519	23	922	528	46	
Hotels and restaurants.....	1,192	9	461	670	45	4
Milk depots.....	22		12	9	1	
Creameries.....	40		25	14	1	
Slaughterhouses.....	79		18	47	11	3
Fish markets.....	54		16	34	4	
Poultry houses.....	84		21	61	2	
Bottling works.....	36	1	21	14		
Ice cream parlors.....	163	2	62	97	2	
Ice cream factories.....	33	1	14	18		
Flour mills.....	63		49	12	2	
Canning factories.....	241	4	84	88	60	5
Wholesale groceries.....	30		26	3	1	
Fruit stores.....	8		3	4		1
Produce companies.....	9		4	3	2	
Commission houses.....	4		2	2		
Lunch cart.....	1				1	
Beet sugar factory.....	1		1			
Soft drink parlor.....	1			1		
Wholesale flour mill.....	1			1		
Ice and cold storage plants.....	3		3			
Saloons.....	26			6	10	10
Brewing companies.....	2		1	1		
Wholesale drug store.....	1		1			
Wholesale produce stores.....	4		4			
Wholesale fruit stores.....	6			6		
Wholesale confectionery.....	1		1			
Ice company.....	1		1			
Pharmaceutical houses.....	3			3		
Milk plants.....	25		14	10	1	
Totals.....	10,809	115	5,989	4,245	386	74

COMPARATIVE STUDY OF SANITARY CONDITIONS
1907-1915.

For a number of years we have tabulated the results of the sanitary inspection of several important industries. This table is continued with the additional figures for 1915. It is worthy of careful study and in view of the fact that the inspector each year requires a little more care and a little more attention to details, the results may be accepted as an accurate gauge of sanitary conditions.

The first business listed, that of dairying, shows a decided improvement in 1915. The percentage of good dairies is higher than ever before and the percentage of fair dairies is considerably higher than in 1914. At the same time the percentage of dairies scored poor and bad is materially lowered. Fewer grocery stores scored poor in 1915 than in any of the nine years covered by the report. Each year shows improvement. This is also true of the meat markets and drug stores. But little improvement is seen in the sanitary condition of

bakeries, hotels and restaurants. We are confident, however, that conscientious effort on the part of proprietors will be followed by improved scorings. There is no reason why the restaurant should continue to be listed in the majority of cases as "fair," a fact that has not been observed in the case of any other class in the table.

COMPARATIVE STUDY OF SANITARY CONDITIONS IN 1907-1915.

	Year.	Condition.				
		Excel- lent per Cent.	Good Per Cent.	Fair Per Cent.	Poor Per Cent.	Bad Per Cent.
Dairies.....	1907	5.2	16.2	43.5	19.1	15.8
	1908	1.4	14.8	44.1	26.8	12.7
	1909	1.0	20.2	39.5	30.2	8.5
	1910	.....	13.7	42.9	24.3	19.0
	1911	.5	9.5	23.6	35.1	31.1
	1912	.5	3.2	32.4	37.2	26.4
	1913	.3	16.1	43.0	31.8	8.6
	1914	.2	9.0	29.0	36.7	24.3
	1915	.....	23.5	41.1	25.1	10.3
Grocery stores.....	1907	4.2	39.0	46.5	8.8	1.4
	1908	2.8	45.5	46.1	44.9	1.75
	1909	4.8	53.6	35.6	5.3	1.0
	1910	3.8	60.3	30.8	4.6	.3
	1911	2.4	57.3	35.2	4.5	.3
	1912	2.2	62.8	31.0	3.5	.3
	1913	3.6	64.2	29.0	2.9	.1
	1914	1.7	53.5	42.6	1.9	.1
	1915	1.2	56.8	40.5	1.2	.1
Meat markets.....	1907	2.8	35.0	47.3	9.9	4.9
	1908	1.8	39.8	47.4	10.1	1.8
	1909	2.2	57.7	34.0	5.4	.5
	1910	3.4	58.8	32.0	4.8	.2
	1911	1.3	53.2	39.7	5.2	.5
	1912	.9	60.4	35.3	2.4	.3
	1913	1.9	64.7	30.2	2.9	.1
	1914	.7	55.0	41.3	2.6	.2
	1915	1.1	55.8	40.7	2.1	.1
Drug stores.....	1907	8.1	58.4	30.7	3.2	.0
	1908	5.4	76.9	15.8	1.5	.0
	1909	3.8	72.9	18.7	3.4	.8
	1910	2.2	80.6	13.6	3.0	.4
	1911	1.5	78.4	18.3	1.4	.1
	1912	1.9	77.9	18.3	1.6	1.6
	1913	9.7	76.7	12.4	1.1	.0
	1914	1.4	79.5	19.6	.2	.0
	1915	.8	78.0	20.7	.4	.0
Bakeries and confectioneries	1907	4.4	40.5	40.8	11.6	2.8
	1908	4.3	39.1	46.4	8.0	2.1
	1909	3.7	49.7	36.2	8.9	1.4
	1910	3.8	52.5	37.3	5.4	.8
	1911	2.6	55.3	35.6	5.9	.4
	1912	1.8	56.6	36.0	4.9	.4
	1913	4.0	61.0	31.6	2.7	.5
	1914	1.3	54.4	40.7	3.2	.1
	1915	1.5	60.6	37.7	3.0	.0
Hotels and restaurants.....	1907	4.5	33.7	40.5	18.0	3.2
	1908	2.0	34.6	48.9	11.4	1.6
	1909	1.3	32.8	47.2	16.1	2.2
	1910	.9	37.7	52.3	8.1	.8
	1911	.7	35.1	52.0	10.6	1.5
	1912	.6	41.0	50.3	7.4	.4
	1913	2.4	45.8	45.6	5.5	.5
	1914	.4	39.8	53.5	6.6	.1
	1915	.7	38.9	56.2	3.7	.3

CONDEMNATION REPORTS.

Under the Sanitary Food Law, the Food Commissioner is authorized to require improvements in sanitary conditions. These orders are issued in writing and are known as condemnation reports, although in most instances they do not condemn the industry, but rather require improvements in certain important phases of its operation or the construction of its buildings.

During the year 577 condemnation notices were issued in most cases for both unsanitary conditions and improper construction. It is worthy of comment that usually unsanitary conditions are always found in buildings improperly constructed. For example, 121 condemnation notices were issued to canning factories, in 121 cases because of unsanitary conditions and in an equal number of cases because of improper construction. In drug stores, however, conditions condemned were usually that of construction rather than sanitation. In the grocery stores, unsanitary conditions were more common than faulty construction. A complete summary of all notices issued follows:

CONDEMNATIONS—OCTOBER 1, 1914, TO OCTOBER 1, 1915.

Classification.	Reasons for Condemnation.		Total Number of Places Condemned.
	Unsanitary Conditions.	Improper Construction.	
Bakeries.....	38	32	38
Bakeshop and meat market.....	1	1	1
Bottling works.....	1	1	1
Candy factory.....	1	1	1
Canning factories.....	121	121	121
Cheese and butter factory.....	1		1
Commission fruit house.....	1		1
Confectioneries.....	17	11	17
Creameries.....	2	2	3
Dairies.....	94	94	94
Drug stores.....	11	48	49
Fish markets.....	2	2	2
Flour mill.....	1		1
Grocery stores.....	66	55	66
Groceries and meat markets.....	25	23	26
Grocery and restaurant.....	1	1	1
Hotels.....	9	9	9
Hotels and restaurants.....	3	2	3
Ice cream factory.....	2	1	2
Ice cream parlor.....	1	1	1
Meat markets.....	22	22	26
Milk depots.....	2	2	2
Poultry houses.....	1	1	1
Restaurants.....	86	86	87
Restaurants and bakeshops.....	3	4	4
Restaurant and confectionery.....	1	1	1
Slaughter houses.....	15	15	15
Soda fountain.....	1	1	1
Wholesale fruit and vegetable market.....	1	1	1
Wholesale store room.....	1	1	1
Totals.....	531	539	577

INSPECTION OF CANNERIES.

SEASON OF 1915.

Goods packed in Indiana canneries in the 1915 season did not equal the volume of other packs of recent years. The quality of the corn and peas packed was excellent, of the tomato pack, fair only. The cool rainy season was unsatisfactory from the tomato grower's standpoint. Since, however, the pack throughout the country is below normal, cannerymen who had 1914 goods on hand were able to dispose of them at a profit.

During the winter of 1915 Inspector Bruner visited every canning factory in the State, met the superintendents or operators, and discussed with them in detail the requirements of the sanitary law and suggested improvements which should be made before the opening of the canning season. His inspection was everywhere received with appreciation, and operators without exception expressed the desire to comply with every requirement of the law and the department. Mr. Bruner issued many condemnation reports, closing a number of plants and ordering extensive improvements in others.

Because of financial troubles, difficulty in securing acreage and condemnation because of unsanitary conditions, some thirty factories did not operate in 1915. Five factories burned and have not been rebuilt.

Every canning factory receiving a rating of "good" in this report has met the following requirements: The building is well lighted and well ventilated, has floors which are impervious to water, sanitary sewerage, sanitary toilets, wash and dressing rooms; is equipped with ample steam hose so that every machine, table and utensil can be thoroughly cleansed with live steam; has an abundant supply of pure water, delivered through bubbling drinking fountains, or individual drinking cups; ample available water and steam under pressure, and where the plant is systematically kept clean and sanitary.

Plants which have met all the above requirements, and, in addition, have employed unusual means for bettering the plant or the product, or have excelled in research work or experimentation, or taken long strides in the installation of ideal establishments, have been given the grade of "excellent."

Factories which are in fairly good sanitary condition, but safe; factories which have met the demands of the department in a partial way, only, but otherwise good; factories having poor buildings but

exceptionally well kept—such as these have received the grade of “fair.”

A large number of farm factories and middle class factories do not operate this year, largely because of a failure in the tomato crop.

Of the 135 factories visited 4 were reported as excellent, 48 as good, 32 as fair, 12 poor and 9 were condemned.

A special report of the inspection made by Mr. Bruner and given to the Indiana canners at their Spring meeting is herewith appended in the hope that it will furnish additional information.

THE CANNER AND THE SANITARY FOOD LAW.

I am convinced that the Indiana canners are followers of the great French Philosopher Montaigne. Montaigne said, “The Most Manifest Sign of Wisdom is Continued Cheerfulness,” and the canner in these times of stress will look long and hard for better advice. The leaven which has worked through the Indiana Canners Association, as I have seen it year after year, is a continued cheerfulness, and although too much of last season’s pack is still in the warehouse I believe you show your wisdom by looking to the future for success instead of to last year with its failures. It has been a hard year, but it has not been so hard for us, and now I speak as one of you, as for canners in other States. Although we don’t like to we can stand adversity as well as prosperity, but we sincerely hope we shall not have to much longer.

Since I talked to you last fall I have learned a lot about the Indiana canning industry that I didn’t know before, and a lot that you didn’t know, and it is this information I wish to give you today.

For the last four months Mr. Bruner, whom most of you know as one of our most efficient food inspectors, has given his entire time to a careful investigation of the canning factory conditions in Indiana. Of course most of his study has been to determine whether or not factories were complying with the Sanitary Food Law, but he has gone further than this and he has collected a mass of data which I believe will be of some value to you as business men. One of the surprising facts revealed by his systematic investigation is the number of canneries equipped for business in the State. We have found 159 canning factories in Indiana. Thirteen of these plants are owned by out of the State capital and 12 of them are farm plants. Fifty-six pack tomatoes only; 24 pack both tomatoes and tomato pulp; 15 pack tomato pulp only. This may be a surprise to you as it was to

me. I know that we were making a great deal of pulp in Indiana but I did not think that 15 plants were devoted exclusively to the packing of tomato pulp. Twenty-six pack corn or peas or both; 6 pack pickles and kraut only while 18 packers put out a general line of food products.

Of these 159 factories 21 will not operate this season. In addition to this number we have condemned as unsuitable for operation 17 plants. This leaves 121 plants which will probably operate. This number may be slightly increased as a few of the condemned plants will probably make the necessary improvements and open for business. We think, however, that in any event not more than 125 plants will operate.

Five of the 12 plants owned by outside capital will not run this year. We have found in the State but 12 farm canneries putting up a hand pack. The development of the canning industry as an adjunct to general farming is being widely advocated. It has not, however, been taken up rapidly in Indiana, and we hope it will not be. We have no desire to see the canning industry in our State pass largely into the hands of small operators with little capital, no experience and unsatisfactory equipment. I am inclined to believe that price conditions are largely influenced by the number of small packers in tomato sections in the east, and we have no desire to see the present situation made worse.

Five new plants have been built or are now being built. Two plants are rebuilding and four are dismantling. Of the factories inspected two only were classed as excellent. He graded 42 as good, 59 as fair, 37 as poor and 5 bad. This score has been made with reference to our requirements for this year. Under former requirements the grades would have been much higher, and canners whose places were graded as good have every reason to be satisfied. Every canner not already equipped has been notified to provide sanitary toilets, wash and dressing rooms; to arrange to thoroughly cleanse daily with live steam every machine, table and utensil; to install sanitary drinking fountains, or where that is inexpedient to furnish individual drinking cups; to build concrete platform, connected with sewer, at point where solid waste is loaded on to wagon; to provide ample water supply under pressure; to see that the drainage is efficient; to make the floors water tight—and other things necessary to the conduct of a sanitary food plant, and it is expected that these orders will be carried out to the letter.

Twenty-one factories have met all of these requirements. Fourteen are deficient in one point, lacking for instance, steam hose.

Twenty-six were short on two items; 40 lacked three and 44 were short in many regards.

I have issued written orders to 124 canners but in most instances the improvements suggested were of minor importance.

Several interesting facts have developed in the course of the inspection. We have learned for instance that two large packers grow their own corn and peas, and in many places packers are growing a considerable acreage believing that they can do so profitably, that they can get a more uniform raw material and as well, appreciating the fact that if they can make a satisfactory crop near the factory their regular growers will be stimulated to greater effort.

It has been our object to see every packer in the State and to inspect the factories during the dull season. Of course a visit to an idle plant does not always show the condition which obtains during the busy season, but obviously if improvements are necessary they must be done now and not after the factory opens. Everywhere the canning factory inspector has met with the kindest and most generally enthusiastic reception, and everywhere a spirit of hearty co-operation has been manifest. He reports that a number of packers are sterilizing their cans, using small and inexpensive appliances to do this.

While our department has not yet ordered the sterilization of all cans, as has been done in some States, yet we believe that the progressive canner will investigate the proposition of washing and sterilizing his cans most thoroughly, and we have no doubt that if he does so he will reach the conclusion that the little extra effort he expends will be well rewarded.

We find that the five gallon can is not recognized by all pulp makers as an ideal package. It is difficult to ship and the loss in handling is too much. Several pulp makers are using glass in gallons with excellent success.

It has been our observation that without exception every tomato packer has contracted for a smaller acreage than in former years, and many plants which in years past have packed tomato pulp will not do so this year. Immense quantities of pulp are still in the warehouses of the packers awaiting a sale, in some cases at prices below the cost of production. Some of this pulp is of excellent quality and will undoubtedly find a good market, but much of it is of no value for food purposes. It does not meet the Government requirements in bacteria, mould or yeast count, and already shipments from out of the State have in a number of cases been seized by Government officials. It is, I believe, advisable for the owners of tomato pulp to take their loss rather than to try to sell below standard goods, and so

subject themselves to the danger of having the goods condemned and the reputation of the entire pack of the State to the damaging publicity always incident to Government prosecutions.

Tomato pulp has a certain food value and some salvage may be possible as a food for hogs or poultry. In any event a can of pulp is the finest of fertilizer in the orchard and some of the pulp of which we have knowledge is far better adapted for promoting the growth of apple trees than in the manufacture of tomato catsup.

Northern Indiana grows excellent cucumbers and scattered over 16 counties in northern Indiana are 76 salting stations in which cucumbers are given their first cure and fermentation and from which they are later shipped to the factories.

The canners are to be congratulated that the question of labor in the canning factory was not discussed at the last session of the Legislature, and that the trade has not been subjected to the wide and often unfair publicity which the canner in New York state has been receiving. Our acquaintance with labor conditions in the Indiana factory leads us strongly to the belief that the operators work under healthful conditions, a reasonable number of hours and at a fair wage. In many cases conditions at the factory are far better than they are at the home, and the cannery with its suitable toilet facilities and sanitary equipment is an object lesson in cleanliness and right living to the community in which it operates.

In this connection it is interesting both to the canner and to the sanitarian to know that 63 canneries are fully equipped with sanitary toilets, wash and dressing rooms, and that all the factories of the State that will operate in 1915 will by the time the season opens be so equipped.

The Indiana canner is conducting his business in a way that merits the strongest approval of the citizen and the consumer, and nowhere do we find conditions either from a sanitary or labor standpoint which warrant criticism or unfair discussion. The child labor problem at the cannery is wholly negligible. The help problem, while at times serious, nowhere compels the importation of labor and the operation of unsanitary camps. The Indiana cannery is a local institution, usually operated by local capital and local labor. That is a large reason why the Indiana pack should receive the complete approval of every Indiana housewife, and why the Indiana canner should be proud to put his name on his product and supplement it by the clear statement "Made in Indiana."

I believe the Indiana canners are on the right road, and that by working together they can earn for the Indiana pack a reputation

that will sell Indiana goods in hard times and in good times, and that as a State our industry will achieve the success that now is limited to a few firms of world-wide reputation who have built up a business in which the selling price is not a factor, and where quality and pride establish a reputation that is paramount over bad business conditions.

INSPECTION OF CANNERIES, SEASON 1915.

ACTON—

Acton Products Company.—T. E. Hamlyn is the new proprietor of this plant and has made much improvement, providing sanitary flush toilets, a sewer system, wash and dressing rooms and ample steam hose for cleansing. Tomatoes only were packed this season. The place is entitled to a grade of "Good."

ANDERSON—

Anderson Canning Company.—This is Grafton Johnson's corn packing plant—and it is a good one, well equipped with all the necessary buildings and machinery for manufacturing and all appliances for keeping the place clean. Rating "Good."

ALTON—

Alton Canning Company.—A Crawford County plant, located on the north bank of the Ohio River, into which the sewerage is discharged. Many improvements were made this year and it is now quite well equipped for a country factory. It does a fair business and is in "fair" condition.

ARCADIA—

Arcadia Canning Company.—Did not operate this season.

AUSTIN—

Austin Canning Company.—Plant of J. S. Morgan and Son. Extensive improvements have been made at this plant this year and is now in very good condition. A general line of foods are packed at this factory which runs all the year.

The Star Canning Company.—This plant was condemned and closed because of unsanitary conditions.

BLOOMINGDALE—

Bloomingtondale Canning Company.—Did not operate this season.

BORDEN—

A canning factory at Borden was contemplated this year, and the equipment mostly at hand, but before the buildings were erected the enterprise fell through.

BRAZIL—

Mullen-Blackledge-Nellis Company.—Have a splendid building, splendid equipment, splendid spirit. The plant has earned a grade of "Excellent."

BROOKSTON—

French Brothers.—Brick and concrete. The floors are concrete on each of the three stories. This firm grows the corn which it packs (and packs nothing else) and does practically all the work by hand, even to the husking. It is a "good" plant and is conducted in a sanitary manner.

BROWNSTOWN, R. F. D.—

A. W. Patrick.—This man packs tomatoes, beans and pumpkins in a haphazard way. It is a small farm plant, the buildings are poor, the drainage is bad, the waste is badly handled and the spirit is not the kind which should be manifested in a food producing plant. Some improvements have been made this year but the place is still "poor."

BROWNSBURG—

Ladoga Canning Company.—Because of the unsanitary conditions in and about this plant the place was condemned, and did not operate this year.

BUNKER HILL—

Bunker Hill Canning Company.—This plant was visited March 23, 1915. Found in bad condition and emphatic written orders were issued looking to the betterment of the place. A feeble effort was made to correct glaring faults but the job was so poorly done that the condemnation will stand for the future and the company cannot operate again until a new, well equipped plant is provided.

BURNETT—

Burnett Canning Company.—This plant had a fire early in the year and was being rebuilt when visited by the inspector. The proprietor, Mr. J. L. Devonald, was showing a fine spirit and making an effort to have everything in sanitary condition. It is a small plant entitled to a score of "Fair."

CARMEL—

Carmel Canning Company.—Did not operate season 1915.

CAYUGA—

Cayuga Packing and Manufacturing Company.—Packs corn and peas in good building with good equipment. The corn is handled exceptionally well. Score, "Good."

CHRISNEY—

Chrisney Canning Company.—This company did not run during 1915.

CLARKS HILL—

Franklin McVeagh and Company.—A foreign corporation, manufacturing catsup, chili sauce and tomato pulp. Did not operate this plant this year.

CLAY CITY—

Ladoga Canning Company.—Tomatoes and tomato pulp manufactured here in a fairly satisfactory way but the buildings are somewhat dilapidated. The equipment is good and the plant is well managed. Rating "Fair."

COLUMBIA CITY—

The F. W. Vance Company.—The day the inspector visited this plant the engineer was staking off the grounds for an up-to-date factory of brick, concrete and glass. If the plans, shown by the blue prints, were carried out, it will be a "good" food factory. A full line of goods are packed.

COLUMBUS—

Columbus Canning Company.—A branch of the Van Camp Plant. Did not operate during season 1915.

COVINGTON—

H. E. Scheid.—Peas and tomatoes and tomato pulp. The place has not been well conducted in the past but orders issued April 21, 1915, have been observed in a fairly satisfactory way and the plant is now entitled to a score of "Fair."

CRAWFORDSVILLE—

Van Camp Packing Company.—It is too bad that so good a plant as this stood idle during the whole of the year 1915.

CROTHERSVILLE—

Rider Brothers Packing Company.—This company has met every requirement of the department and has a plant that is "Good."

Crothersville Canning Company.—This plant has made some decided improvements in floors, lighting, hose for cleansing, and dressing rooms, but is still short as to toilets, these being very unsatisfactory. The score is "Fair."

DANVILLE—

Danville Canning Company.—Improvements made after April 28, 1915, entitles this plant to a score of "Fair."

DELPHI—

Great Western Canning Company.—Has a good stone building, with concrete floors and every equipment for doing a general packing business and has met, in every way, every requirement of the department. "Good."

DUNCAN—

J. L. Knabel.—Did not run this year.

EDINBURG—

Naomi Packing Company.—This plant packs corn and peas in a stone, concrete and sheet iron building, and would be a mighty good plant if the drainage and toilet facilities were better. As it stands the score is "Fair."

EDWARDSVILLE—

J. F. Brown Home Company.—This is a farm hand pack plant, equipped with concrete floors, sewers, steam hose for cleansing and is an ideal small food factory.

ELNORA—

Elnora Canning Company.—This factory was condemned March 3, 1915, and closed unless certain stringent orders for the betterment of the plant were complied with. This the company did, making a decided improvement in the place. Tomatoes and beans were packed this year. The company should plan to build a new building at the very earliest time possible. The place is now entitled to a score of "Fair."

ELWOOD—

H. Ferguson Packing Company.—Place condemned as unfit for the manufacture of food April 4, 1915. But such splendid improvements were made in the floors, toilets and sewerage that the condemnation was lifted and the plant is now scored "Good."

Frazier Packing Company.—Well built, well equipped; well conducted; good spirit. This tells the story of the "Good" plant.

Irvin and Plough.—This place was condemned and closed, and has since burned.

ENGLISH—

English Canning Company.—This plant had not expected to operate this year and so had not made all the improvements demanded. The small run made was done under conditions which were "Poor."

EVANSVILLE—

Indiana Canning Company.—With a good building, good floors, good equipment, good toilets, wash and dressing rooms, city sewerage and plenty of room, there is every reason why Ezra Lyon's plant should have a rating of "Good."

FAIRMOUNT—

Snyder Preserving Company.—Chili sauce and pulp packed. This is a good building, and the equipment is good, but the inspector on September 30, 1915, found one toilet unclean, the floor of the work room unclean and the solid waste from the factory deposited within one hundred feet of the building. This plant should have a score of "Good" or better, but the conditions found permit of "Fair" only.

FAIRLAND—

Libby, McNeal and Libby.—This is a pulping plant for the Chicago firm, but it was not operated this year.

FORTVILLE—

Fortville Canning Company.

FRANKFORT—

New Federal Canning Company.

FRANKLIN—

Franklin Canning Company.—This is a Grafton Johnson plant and corn is packed here. The place is well managed. "Good."

FRANKTON—

Frankton Canning Company.—A good frame building with iron sides, concrete floors, good sewerage, modern equipment and great care strikes the inspector as the vital points in this tomato plant. "Good."

FREETOWN—

Freetown Canning Company.—A branch of Rider Brothers, Crothersville, Indiana. This plant was built in 1914 and is a good frame building with good concrete floors and eight inch private sewer. Because the toilets and wash rooms are not so good as they should be the score is only "Fair."

FRUIT DALE—

Williams Brothers.—This is a small Brown County hand pack plant, canning tomatoes, beans, peaches, blackberries, etc. They have a poor plant, and, while they have this year made some betterments, they appear to have but little conception of sanitation. "Poor."

FORT WAYNE—

D. M. Sears and Company.—Pickles, kraut, catsup and other condiments prepared and packed here in a good brick building with good concrete floors. Ample toilets, wash and dressing rooms are provided and the sewerage disposed is satisfactory. Everything is well done here, apparently, except that the pulp department should be better housed. "Fair."

GASTON—

Gaston Canning Company.—This concern has made valuable improvements to the plant this year which, together with the care exercised throughout the whole establishment, entitles it to the rating given—"Good."

GREENTOWN—

Greentown Canning, Ice and Manufacturing Company.—The old plant of this enterprising company burned early in the year 1914 and a new factory was erected—and it was a good one. Everything needful was provided. The women's toilet and rest room is a model. The rest room has easy chairs, rugs, a couch, table, magazines, pictures, etc.,—a small investment which Mr. H. S. Willeults, the manager, thinks pays very large returns in care, enthusiasm, efficiency and appreciation on the part of the employees. "Good."

GREENWOOD—

J. T. Polk Company.—This concern is keeping up its well known reputation for efficiency and sanitation. The rating is "Good."

HAMMOND—

Reid-Murdock and Company.—This plant is well equipped and well operated. There is more hand packing done in this place than in any other large food factory in the State. The score is "Good-plus."

HARRISON—

T. A. Snider Preserving Company.—This plant did not operate during the season of 1915.

HENRYVILLE—

Jeffersonville Canning Company.—The orders issued to this company February 8, 1915, were carried out in part only. The redeeming feature of the situation in this plant this year was the extreme care and cleanliness of the manager, Mr. Charles M. Martz, who did his work under difficulties. The score is "Fair."

HOPE—

Hope Canning Company.—Tomatoes and corn. Considerable improvement was made in this plant this year in the way of sewerage, toilets, steam hose for cleansing, etc., which raised the score to "Fair."

HUNTINGBURG—

Huntingburg Canning Company.—Did not operate in 1915.

INDIANAPOLIS—

J. Henry Amt Company.—Pickles, kraut and vinegar. This would be a better plant if there were installed a scheme of systematic daily cleaning. The place is handicapped in that no sanitary city sewer is in reach of the plant. Score, "Fair."

Central States Canning Company.—This is a new concern, operated for the first time this year. The company took over the pork packing plant of Hilgemier Brothers, cleaned it up, did some concreting and laid sewers. A general line is packed. "Fair."

Columbia Conserve Company.—This company has installed everything the department has been asking for long before the general orders were issued. Steel lockers, uniforms, shower bath and a laundry and drying rooms are provided for employes. Grade "Excellent."

Haverskamp and Hagelskamp.—This plant has made some physical improvement, but according to the inspector's report the proprietors "Don't know how to run a clean plant." Grade "Poor."

W. D. Huffman Company.—Manufacture a general line of food products. The building is not well fitted for a food factory, but a decided improvement has been made in the plant, and the care of it, and all requirements have been met reasonably well. The rate is "Fair."

C. W. Jackson and Son.—General line packed. The building in use is not well adapted for food factory purposes, but the proprietors are doing a pretty fair job in taking care of the plant. "Fair."

Schnull and Company.—Pack general line. Have a good plant and every equipment for keeping the place clean and turning out a good product. "Good."

Van Camp Packing Company.—This is a good plant, well handled, but the company contemplates the erection of a new plant soon which will embody all the newest and most approved features in equipment, efficiency and sanitation. "Good."

JEFFERSONVILLE—

Jeffersonville Canning Company.—Hominy, pork and beans, kraut, etc. Good brick building with good concrete floors except in operating room where floor is board in fair condition. Fair flush toilets are provided. "Fair."

KENNARD—

Kennard Canning Company.—This plant is operated by Goddard and Company, wholesale grocers, Muncie, and meets in every way all the requirements of the department. "Good."

KOKOMO—

Saylor's Packing Company.—This is a well handled plant and readily complies with every request for improvements. "Good."

Kokomo Canning Company.—This plant, owned by Charles Mc-Reynolds, was burned during the summer of this year.

LADOGA—

Ladoga Canning Company.—This is one of three plants operated by the company of which Edgar Ashby is the head. The building at this place has been in use many years and is in such condition that it cannot be well repaired. It should be abandoned at the earliest possible time. Considering the state of the old building fair results in the way of sanitation are obtained. "Fair."

LAFAYETTE—

H. J. Heinz Company.—This factory did not operate this year.

LAPEL—

Lapel Canning Company.—This plant was condemned because of unsanitary conditions.

LEBANON—

Ladoga Canning Company.—This is a new plant, erected this year, and it is a mighty good one. The main building and warerooms are of brick and concrete, well equipped throughout with light and ventilation, sewers, toilets, steam hose, drinking fountains, etc. A general line of foods, including corn and peas will be packed. Score "Good, plus."

Columbia Conserve Company.—Used only as a shipping station for the Indianapolis plant.

LEOTA—

J. S. Morgan and Son.—Branch plant. Some improvements. Very small pack. Will be abandoned. "Fair."

LEXINGTON—

Lexington Canning Company.—Plant did not run this year.

LEISURE—

Leisure Packing Company.—Place condemned as unsanitary.

LITTLE YORK—

Little York Canning Company.—Factory burned.
Garriott & Gamble.—Place condemned as unsanitary.

LISBON—

Noble County Canning Company.—Tomatoes only packed here in a fair factory with equipments likewise fair. Score "Fair."

MADISON—

T. A. Snider Preserving Company.—Catsup is manufactured at this branch plant of the Snider Company. To handle the product in the best possible manner a part of the factory should be rebuilt. As now operated it deserves a score no better than "Fair."

MARENGO—

Marengo Canning Company.—Only by the exercise of the utmost care and cleanliness (because the factory building is old and out of repair) has this concern been able to merit a score of "Fair."

MARION—

T. A. Snider Preserving Company.—This is the largest of the Snider plants in Indiana and is well equipped and fairly well conducted. The score is "Good."

MARTINSVILLE—

Van Camp Packing Company.—A branch of the Indianapolis Van Camp plant. Packs a general line, and does it well. The building for the most part is in good condition and the equipment is first class. This plant was the first in the state to sterilize the cans before sending them to the filler. The grade is "Good."

MARYSVILLE—

Southern Indiana Canning Company.—This concern did not operate in 1915.

MEDORA—

Medora Canning Company.—This first rate little plant, with every equipment for good work, has had an unfortunate business history from the beginning. It deserves nothing but the best of fortune, because it is a "good" plant.

MORGANTOWN—

The Morgantown Packing Company.—This is a very good plant, doing a general packing business. Every demand upon them has been cleverly met. "Good."

MUNCIE—

Butterfield Canning Company.—General packing business. Good equipment. Well managed. "Good."

Tuhey Canning Company.—Tomatoes and pulp packed in a satisfactory way with good equipment. "Good."

NABBS—

Southern Indiana Tomato Seed Company.—This plant did not operate this year.

NEW CASTLE—

Scioto Canning Company.

NEWBURG—

Newburg Canning Company.—This factory did not run this year. It should remain closed permanently.

NOBLESVILLE—

Standard Canning Company.

NORTH TERRE HAUTE—

North Terre Haute Cannning Company.—This plant was dismantled this year.

NORTH VERNON—

T. A. Snider Preserving Company.—This plant did not operate in 1915.

OWENSBURG—

Owensburg Canning Company.—New building erected this year. Plant did not operate.

OTISCO—

Otisco Canning Company.—This factory did not operate this year and it should never be operated again in its present condition.

OX VALLEY—

Ox Valley Canning Company.—Condemned as unfit for food factory.

ORESTES—

Orestes Canning Company.—This plant was condemned, but improvements were made which brought the plant into fair condition. "Fair."

PAOLI—

Tomato Products Company.—This concern continues to improve its splendid plant by the addition of equipment to save labor, conserve flavor and better the quality of its output and goes to the extreme in care, sanitation and experimentation. "Excellent."

PEKIN—

Pekin Canning Company.—This plant is out of business, having been dismantled this year.

PENDLETON—

Lee Canning Company.—Did not operate 1915.

PERU—

Peru Canning Company.—No orders are required to keep this plant up to a score of "Good."

PETERSBURG—

Petersburg Sanitary Canning Company.—This is a well conducted plant with every requirement of the department anticipated. "Good."

PLAINFIELD—

Plainfield Canning Company.—A Van Camp plant. Not operated this year.

PLAINVILLE—

Plainville Canning Company.—This plant has, for a long time, been rated a good plant, but it has not quite caught and kept up with the onward march of the more scientific methods of handling food stuffs. The rate is now "Fair."

PRINCETON—

Princeton Canning Company.—This company has not the best building, not yet the best equipment, but the care and system employed in handling its products gives it a standing not otherwise attainable. "Fair."

PIERCETON—

Reid-Murdock and Company.—This is a branch plant of the Chicago firm, the main factory being located at Hammond, Indiana. The plant is in fair condition but well handled. A new model plant is to be erected for next year. The score now is "Good."

PLYMOUTH—

Plymouth Canning Company.—This plant, which is a good one, was not operated this year and will probably be abandoned permanently as a food factory.

PORTLAND—

W. H. Hood.

ROCHESTER—

Rochester Canning Company.—This is one of the few factories which did not receive orders for betterments in the spring of this year. It is well equipped, intelligently managed and meets every requirement. "Good."

SCOTTSBURG—

Scottsburg Canning Company.—All requirements have been met at this plant—and the plant, the spirit and management is "Good."

SEYMOUR—

Seymour Canning Company.—This company seems to be content to move along, employing the same old unsatisfactory methods and equipments in use some years ago. It cannot longer so continue. "Poor."

SHARPSVILLE—

Sharpsville Canning Company.—This is the plant of N. L. Hutto. When it is remembered that it has been built up by "piece meal," as the business expanded, it must be admitted to be one of the best conducted plants in the State. We should much like to see just what he could do with a new plant built according to his advanced ideas. "Good."

SHELBYVILLE—

Shelbyville Canning Company.—This is another one of Grafton Johnson's plants. It is devoted entirely to the packing of corn,—and it is well done. "Good."

SHIRLEY—

Shirley Canning Company.

SHERIDAN—

Sheridan Canning Company.—Tomatoes and corn. This is a satisfactory plant, well conducted and has met all the requirements of the department. "Good."

SOUTH WHITLEY—

South Whitley Canning Company.—This plant did not operate this year, and will be dismantled.

SULLIVAN—

Sullivan Canning Company.—A new plant, built late in the year 1914. It is well equipped, well managed and meets every requirement of a sanitary plant. "Good."

SARATOGA—

Warren and Harshman Canning Company.—This company has met, in a fair way, all the requirements of the department. The general packing business is done in a fairly satisfactory manner. The score should be "Fair."

STRAUGHEN—

S. H. Murphy and Company.—This is a small country plant which is well conducted, well equipped and which meets every requirement. "Good."

SUNMAN—

Sunman Canning Company.—Did not run 1915.

SWAYZEE—

Swayzee Canning Company.

TELL CITY—

Tell City Canning Company.—This plant would be a poor one except for the care and system employed in the management. Orders of the department have been observed except as to toilets and as to that there appears to be some extenuating circumstances. All things considered the plant should be rated as "Fair."

TERRE HAUTE—

The Loudon Canning Company.—This is one of the great plants of the state and is well conducted and well equipped. Its main energy is directed to the manufacture of catsups and condiments. "Good."

Huffman and Company.—This wholesale firm has for one of its departments the manufacture and sale of a general line of canned foods. Most of the work is done by hand. The place is well equipped with all sanitary appliances and the plant is kept clean at all times. "Good."

TIPTON—

The Fame Canning Company.—This is Grafton Johnson's tomato catsup factory and it has been a good one all the time except for unsanitary toilets in the yard. Flush toilets have been installed. This defect having been corrected, the plant now fully merits the score of "Good."

T. A. Snider Preserving Company.—Tomato catsup only made here in a manner fairly satisfactory. "Fair."

UNDERWOOD—

Hoagland Brothers.—This firm has replaced an old building with a splendid new one of brick and concrete. The plant is well lighted and ventilated, sewered and equipped with every appliance to make it sanitary and easy to keep clean. A general line of foods is packed. "Good."

VALLONIA—

Vallonia Canning Company.—This is an exceptionally well kept and well equipped country plant and easily entitled to a score of "Good."

VIENNA—

Vienna Canning Company.—This plant has met every requirement of the department and is well equipped for a country plant. A general line is packed. "Good."

VINCENNES—

Dyer Packing Company.—This plant is now well provided with sanitary appliances and is conducting the manufacture of a general line of foods in a satisfactory manner. "Good."

Old Vincennes Preserving Company.—After a stormy experience this unsatisfactory food factory has succumbed to the inevitable and is now no more.

WABASH—

Wabash Canning Company.—This plant has been making extensive improvements and is now provided with every appearance for keeping the place in a sanitary condition at all times. The score is "Good."

WALKERTON—

Walkerton Food Products Company.

WARSAW—

Cruikshank Brothers.

WASHINGTON—

Washington Canning Company.—Snider plant. Did not operate. Dismantled.

WESTFIED—

Geo. Van Camp and Sons Company.

WESTPHALIA—

Sanitary Canning Company.—A modest country plant in which much personal pride is manifested. It is moderately well equipped, but all requirements are met and the place is kept scrupulously clean. "Good."

WHITELAND—

Whiteland Canning Company.—Grafton Johnson's pea plant. Did not operate this year.

WINDFALL—

Royal Packing Company.—General line packed. A good factory, well equipped, well managed and well kept. "Good."

WORTHINGTON—

Worthington Canning Company.—Condemned as unfit to pack food.

YORKTOWN—

Yorktown Canning Company.—This plant was impossible as a food factory and was accordingly condemned and closed.

FORMALDEHYDE GENERATORS.

W. D. McABEE AND G. M. STAPP.

Eight formaldehyde generators were examined, (1) first, as to the amount of formaldehyde in each package and (2) second, their ability to kill bacillus typhosus and bacillus diphtheriae. The following results were obtained as to the amount of formaldehyde, using the U. S. P. method of analysis.

Generator.	Amount Found.	Amount Claimed.	Remarks.
Formá germkill.....	65.4%	72%	
International germ destroyer.	62.0%	80%	Large size.
International germ destroyer.	69.6%	80%	Small size.
De Pree A.....	57.8%	66%	Glycero-carbolate of formaldehyde.
De Pree B.....	57.5%	66%	Glycerinated.
De Pree C.....	60.7%	66%	Commercial paraform paste.
De Pree D.....	89.8%	95%	Powder.
Kokomo Chemical Co.....	19.6%	None	Stated.

Forty-eight hour bouillon cultures were made of bacillus typhosus and bacillus diphtheriae. Sterile strings were dipped into each of these cultures and hung in each corner of a closed room of about 2,500 cubic feet capacity and subjected to the action of the generator for about 20 hours. The amounts of formaldehyde used and also the conditions under which the experiment was performed were those recommended by the manufacturers. At the expiration of that time each string was put into a tube of sterile bouillon and incubated for three days. The following results were obtained.

Generator.	Typhoid.		Diphtheria.	
	+	-	+	-
Forma germkill.....	4	4	3	1
International.....	4	4	4	4
De Free A.....	4	4	4	4
De Free B.....	4	4	1	3
De Free C.....	4	4	1	3
De Free D.....	4	4	1	3

DISINFECTANTS.

GAIL MIERS STAPP.

The State Board of Health has long felt it advisable, both in the interest of the public health and wise economy, to determine the actual value of the many brands of antiseptics and disinfectants sold within the State and largely used in school houses and public buildings. In order to determine the value of these preparations, a department of the drug laboratory has been devoted to the study of disinfectants and antiseptics and it is proposed to exercise over these preparations the same careful control that we have given the drug supplies. At our request, the superintendents of schools in the larger cities submitted samples of the solutions used in school houses and school rooms as deodorants and disinfectants. Twenty-three samples of disinfectants were obtained from various sources and analyzed to determine their phenol co-efficient or actual value as compared with pure phenol. The method used in the analysis was that recommended by the Hygiene Laboratories, Bulletin No. 82.

It will be observed that a number of preparations had a decidedly lower phenol co-efficient than that claimed for them. The lowest grade preparations claimed nothing and in some instances were worth nothing.

Sandol, labeled "King of Disinfectants," is recommended "to

destroy all foul odors and disease germs instantly." According to the E. S. Hughes Co., Ltd., Mt. Clemens, Michigan, it is absolutely non-poisonous. An analysis shows it to be a 5 per cent solution of common salt. In other words, the preparation is a fraud and those who sell it are obtaining money under false pretenses just as truly as if they were selling gold plated bricks.

The Peerless Germicide and Disinfectant has no germicidal action and is of no value whatever as a germ killer. The statement in the accompanying advertising literature, "that it will kill tuberculosis and other infectious disease germs which cause death among employees" is false.

From the data given below we must conclude that it is unwise to buy disinfectants of unknown composition and without definite information as to their actual value for the purpose for which they are to be used.

DISINFECTANTS.

Name.	Phenol Coefficient Found.	Phenol Coefficient Clal ned.
Chloro Naptholeum.....	4.3	5.0
Chloro Naptholeum.....	4.7	5.0
Creolin.....	5.4	9 to 10*
International Chemical Co.....	1.6	
Pine Emulsion.....	3.45	
Pine Oil.....	3.6	
Pheneco.....	13.6	15.0
Creo Sul.....	2.9	
Pyxol.....	14.3	20.0*
Ka-De-Co.....	2.1	
Peerless.....		
Crezone.....	12.4	20.0
Car Sol.....	2.12	
Capitol.....	None	
Twenco.....	10.5	20.00
Sandol.....	None	
Kresodip.....	1.9	
Lysol.....	2.25	
Deodorine.....	1.5	
Kreso.....	4.12	
C. N.....	3.0	5 to 6
Kresano.....	4.05	5
Creolium.....	.60	

*As obtained by the Rideal-Walker method.

THE BETTER EGG CAMPAIGN.

Indiana produces millions of dollars worth of eggs and poultry annually. The hen is one of the busiest money makers in the State and the value of her output ranks close to that of corn and wheat, and far exceeds the value of most manufactured products. The farmer, however, does not appreciate the importance of the industry and leaves the care of his hens and the collection and sale of eggs to his wife and

children. The loss incident to the sale of second grade and bad eggs amounts to several million dollars a year, and in an attempt to reduce this loss we have this past year made an effort to reach the farmer with literature and information for the purpose of helping him better to appreciate the necessity for handling eggs carefully.

The following circular letter was first issued to the farmers. This was followed up with a notice to country merchants and hucksters to candle eggs. A "warning" to farmers which contained much the same information was distributed in placard form in an edition of 25,000. A copy of this "warning" was sent to every postmaster in the State who by the courtesy of the Postmaster-General was allowed to post it in the lobby of his office. By special arrangements additional copies were distributed by rural mail carriers. The Indiana Egg and Poultry Association distributed many thousand of these posters to its customers. Fortunately this campaign was carried on during a summer which was cool and so conducive to little spoilage, and as a result of both the campaign and good weather conditions the loss in bad eggs this season has been far less than ever before.

We are pleased to quote a letter received from the Winchester Butter and Egg Company, in which the proprietor, Albert Rupe, tells how he successfully eliminated bad eggs and educated his patrons so that they co-operate with him in producing quality eggs. The egg business of the future will be upon a quality basis. We wish more egg dealers were as enterprising as Mr. Rupe.

"We would like to acquaint you with what we have been doing this year in the way of trying to solve the good egg problem.

During our experience in the egg business we have had the good fortune to have had three or four customers who sold us their eggs every week, and in all the time they never sold us an egg that was not strictly first-class in every respect, and we came to the conclusion that if these women could all women might.

We saw the futility of the law where dealers fearing to loose what good eggs their customers might have to sell took their bad eggs at the same price and said nothing about it, not even trying to educate them different; and where our Health Officer believes that where people seem to be content with existing circumstances although bad, that it is better than causing trouble trying to better conditions.

So we conceived the idea that if there could be some distinguishing mark placed on each and every egg so that it could be traced back to the seller positively and beyond a doubt, and that by so marking their eggs the producer would derive a financial benefit and give them

positive evidence of this, we might do something in bettering the good egg proposition.

With this in mind we obtained the consent of one of these customers who had always sold us good eggs to so identify a case of their eggs and report results.

The returns were so gratifying that we induced ten of our customers to enter the class with the guarantee of one cent a dozen above prevailing prices, we furnishing the stamps for marking their eggs, free of charge.

The results grew better rapidly and the demand for admission to the class has advanced far beyond our most ardent expectations until at present we have more than one hundred farmers in this vicinity using their Initial Marks guaranteeing the eggs they sell to be strictly first-class; and we are proud to say that we are paying them this week five cents more on the dozen than it is possible to pay for miscellaneous eggs.

Following are the conditions we have made:

1. The producer must positively know that the egg was laid the day they gathered it.
2. No small or undersized eggs accepted.
3. No stained or soiled eggs accepted.
4. No cracked or broken eggs accepted.
5. That the eggs must be kept in a dry, cool place and marketed once a week, oftener, if possible."

CIRCULAR LETTER No. 23.

TO THE FARMERS AND EGG DEALERS OF INDIANA.

The preventable loss in the quality and value of eggs incurred between the producer and consumer runs into millions of dollars annually in our State alone, and the farmer and consumer have to bear most of the burden; the producer gets less per dozen because every bad or stale egg thrown out by the jobber tends to reduce the purchase price, while the consumer has to pay a higher price for the eggs that finally reach him.

There is no money in any egg save a good egg, and when the farmer realizes that he and not the grocer and huckster to whom he sells must stand the loss for bad eggs, he will be as careful of their quality as he is of the quality of his wheat or hogs.

If the suggestions below are followed eggs will be marketed in better shape and will yield a better profit to the producer.

Provide plenty of clean, dry nests for your hens.

Gather the eggs daily in cool weather and twice a day in hot or rainy weather.

Do not wash eggs. Use the dirty and small eggs at home.
 Keep eggs in a cool, dry place, which is free from odors.
 Don't sell eggs which have been in an incubator.
 Market your eggs daily, if possible; if not every other day.
 Don't sell eggs which were found in a stolen nest.
 Use them at home.
 Keep the eggs out of the sun when taking them to town.
 Don't keep eggs near oil, onions, etc., as they readily absorb odors.
 Kill or sell all roosters as soon as the hatching season is over.

The Indiana Food Law forbids the sale or offering for sale of eggs which are in any degree decomposed, putrid or rotten. Eggs showing spots, blood rings or rots are unfit for food. Egg producers, hucksters and dealers are urged to candle all receipts and to throw out all bad eggs to prevent expense in handling and shipping eggs which must ultimately be discarded.

Food inspectors and local health officers are charged with the enforcement of the Pure Food Law. All citizens and dealers are requested to report the sale of bad eggs to

H. E. BARNARD,
State Food and Drug Commissioner,
 State House,
 Indianapolis, Indiana.

March 30, 1915.

NOTICE TO COUNTRY MERCHANTS AND HUCKSTERS TO CANDLE EGGS.

IN THE INTEREST OF BETTER EGGS.

Your attention is called to that section of the Pure Food Law which prohibits the sale of food which consists in any proportion of decomposed, putrid or rotten animal substance. (Sec. 2, Chap. 104, Acts, 1907.) And also to the amended section which makes it the duty of all peace and health officers to seize any eggs found to be unwholesome, and to file an affidavit against the person having such eggs in his possession. (Sec. 2, Chap. 240, Acts, 1911.)

The State Pure Food Department will hold the person who has bad eggs in his possession strictly accountable for any violation of the laws. The defense that the eggs were to be sold subject to candling is not valid. All eggs should be bought on the loss off basis, promptly candled, cased, put in a cool place and shipped without delay. Rots, spots and blood rings must be destroyed at once.

Farmer's eggs should not be taken at the store or wagon until the buyer knows they are good eggs. Impress upon all egg producers the fact that every bad egg they try to sell not only helps to reduce the price of all eggs but makes them violators of the pure food laws.

This letter may be posted for the information of your producers. Call specific violations to the attention of

H. E. BARNARD,
State Food and Drug Commissioner,
 State House,
 Indianapolis, Indiana.

P. S.—If you are engaged in interstate shipping the same regulations will apply under the Federal Food Law. Shipments are liable to seizure at transfer points or at destination and action may be brought against you in the Federal Courts.

CIRCULAR LETTERS AND LETTERS OF INFORMATION.

To facilitate the enforcement of the several laws and as well to explain the provisions of the laws, and to assist manufacturers and dealers in complying with them, it has been the practice of the department to issue circular letters. These letters are sent to the person or trade interested and are given general publicity by the press of the State.

During the year past a number of such letters have been promulgated, and as well, special letters of inquiry addressed to health officers and public officials. Such notices and letters as are of special interest follow herewith.

BAKERS' PRODUCTS.

The Pure Food Law has been in operation so long that many of its details that were a source of worry and confusion to manufacturers and dealers when it was first enacted, are now taken as a matter of course, and in some instances given less attention than their importance demands. This is especially true in the case of bakers' products. The baker is a manufacturer dealing with raw materials of which flour is the bulkiest though by no means the most important. In the manufacture of pastries and baker's confections the baker uses a great variety of ingredients, some of which he manufactures himself from raw material, and others he obtains through the baker's supply house. The baker's supply houses are careful to comply with the Pure Food Law and none of their products, a large variety of which are offered the trade, is in violation of the Pure Food Law in the original unbroken package. If they are artificially colored that fact is declared on the label. If the material used in extracts is imitation a plain statement is made to that effect. The baker who buys these goods knowing that they have been passed by the Pure Food Law has fallen into the mistake of thinking that he can use them freely without being subject to the penalties. He forgets that when he uses imitation flavors, artificial colors, egg substitutes and many of the specialties he finds useful in his industry he is not providing any

means by which the ultimate consumer may learn of the actual composition of his product.

It is not illegal for him to buy and to use artificial vanilla flavoring but if he sells vanilla wafers without labeling them to show that the flavor is imitation or artificial, he is violating the law; if he uses an imitation jelly in making his jelly roll and does not label the roll so that the consumer knows that the jelly is made from artificially dyed apple stock, instead of being a true currant jelly he is selling an adulterated food stuff.

We have recently had occasion to examine 25 cakes, chiefly jelly roll, made by as many different bakers. Of this number 11 contained artificially colored jelly. In 14 cases the jelly owed its color to the fruit from which it was made and in three cases the jelly was preserved with benzoate of soda.

Of 17 samples of jellies collected at bakeries and sent in by inspectors 13 were artificially colored and but 4 were pure. These figures show conclusively that the baker is not observing the Pure Food Law with respect to his choice of jellies or to the labeling of his products.

In order that the unsatisfactory condition may be remedied the following order is issued:

NOTICE TO BAKERS.

A recent investigation into the composition of the jellies employed as filling in jelly roll and similar bakery products forces us to conclude that many bakers are using artificially colored jellies in their products, a practise which is in violation of the law and a fraud upon the consumer.

Of the twenty-five samples of cake examined, eleven contained artificially colored jelly and in three cases the jelly used was preserved with benzoate of soda, an additional violation of our Pure Food Law. Of seventeen samples of jelly analyzed thirteen were artificially colored. In nearly every instance the artificially colored jelly was made from apple stock and so colored to imitate currant or other expensive jellies.

In view of the facts as above related the following order is issued and will be rigidly enforced.

The use in bakers' products of artificial or imitation jellies or fillers with or without artificial color, is prohibited except when such products are plainly and distinctly labeled to show the presence of such adulterated, imitation or artificially colored product.

The use of egg substitutes and imitation egg colors for the purpose of giving bakers products a color usually and customarily obtained from the yolk of egg is prohibited unless such bakery product is plainly and distinctly labeled to show that it is colored in imitation of cake normally colored with yolk of egg.

County, City and Town Health Officers, State Food Inspectors and all other officers whose duty it is to enforce the Pure Food Law, will be governed by this notice.

H. E. BARNARD,
State Food and Drug Commissioner.

April 20, 1915.

NOTICE TO CONTRACTORS AND TEAMSTERS.

It has come to the attention of the department that the wagon beds used in hauling sand, gravel, rock and similar material commonly hold less in terms of cubic yards than the amount for which the bill is rendered, or otherwise do not comply with the terms of the contract under which the material is hauled and sold. The use of a wagon bed which does not hold the stated amount of material is just as fraudulent as the use of a short half bushel measure or of a short weight scale.

The most satisfactory method of estimating the capacity of wagon beds is in terms of cubic feet instead of cubic yards, and in no case should the load be measured except at the point of delivery.

Contractors, supervisors and all interested persons are requested to measure all wagon beds and to see that the load delivered is that for which charge is made.

Inspectors of Weights and Measures and all police officers are instructed to see that the law requiring honest measures is obeyed.

H. E. BARNARD,
State Commissioner of Weights and Measures.

April 15, 1915.

NOTICE TO GROWERS OF SMALL FRUITS.

I am in receipt of advice from the Department of Agriculture to the effect that crates containing small open boxes or baskets of berries, peaches, tomatoes, etc., must be marked to show the number of containers in each crate and the quantity of the contents of each container. In other words each crate of small fruit should bear a statement as follows: "2—1 Quart Boxes," "6—4 Quart Baskets," etc

This order from Washington applies only to goods shipped into Indiana, but since the Indiana Statute is the same as the Federal Law Inspectors of Weights and Measures are instructed to require a similar marking in the case of small fruits and vegetables in containers sold on the market.

Very truly yours,
H. E. BARNARD,
State Commissioner of Weights and Measures.

NOTICE TO TRUCK MEN, GARDENERS, FARMERS AND DEALERS IN CABBAGE.

The practice of handling cabbage heads with forks results in the piercing of the head by the tines in such a manner that the quality of the product made from the cabbage is impaired. While it may be an advantage from the labor standpoint to handle cabbage with forks, yet the damage to the cabbage, the waste of material and the impairment of quality is of far greater value than the economy of labor. You are instructed therefore to handle cabbage in such manner that the head will not be perforated.

Dealers and manufacturers are instructed not to buy or sell cabbages that have been pierced or injured.

H. E. BARNARD,
State Food and Drug Commissioner.

March 30, 1915.

NOTICE TO VENDERS OF LIQUID BEVERAGES, LEMONADE, ORANGEADE, ETC.

Investigations made by the Food Department of the State Board of Health have shown the use of common cups or glasses at lemonade and other liquid beverage stands to be unsanitary and dangerous to health.

All dealers in beverages who are not provided with running water and hot water in which to wash and sterilize glasses and serving dishes are hereby instructed to use individual cups of paper or other material which, after once using, are to be destroyed.

Pure Food Inspectors and County, City and Town Health Officers are instructed to enforce these requirements.

H. E. BARNARD,
State Food and Drug Commissioner.

April 20, 1915.

RULE 24.

OPERATION ON SODA FOUNTAINS.

In order that the sale of ice cream, sodas and soda fountain sundries may be conducted under sanitary conditions and in conformity with the laws of the State, the operators of ice cream parlors and soda fountains are hereby instructed that all such goods shall be dispensed only in sterile containers. To this end it is ordered that all soda fountains and ice cream parlors be provided with facilities for washing dippers, glasses, spoons and serving dishes and operated under the following conditions:

1. An adequate supply of water.
2. All dishes and utensils shall be washed by rinsing in cold water, then by thoroughly washing in water with soap or suitable cleaning powder, then by rinsing in clean cold water.
3. Where it is not possible to provide hot water or running cold water the use of paper cups and linings will be allowed.

4. Refrigerators at soda fountains shall be kept clean by washing with hot water and soap or washing powder.

5. Employees in ice cream parlors and soda fountains shall be cleanly in person and dress, free from infectious and contagious diseases and trained in the conduct of their work.

6. The use of straws is forbidden except when such straws are kept protected from dust and dirt in suitable containers.

7. As soon as empty, ice cream, milk and cream cans shall be rinsed in cold water.

Passed by the State Board of Health.

July 2, 1915.

RULE 22.

SANITATION OF "FREE LUNCH" PLACES.

All paragraphs of the Pure Food Law, Acts 1907, Chapter 104, and of the Sanitary Food Law, Acts 1909, Chapter 163, and all rules of the State Board of Health governing the sanitary conditions at food distributing establishments, and requiring the protection of food exposed for sale are hereby declared in force and effect in all so-called "free lunch" places or other places where food is given away or distributed to patrons without charge.

All food shall be protected from flies, dust, dirt and all other foreign or injurious contamination by suitable coverings of glass, wood or metal. All dishes and utensils shall be thoroughly cleaned by washing with soap in hot water after each service. Individual forks, knives and spoons shall be supplied each patron.

RULE 23.

REQUIRING INDIVIDUAL DRINKING AND SERVICE CUPS.

The use of common cups of glasses at lemonade and other liquid beverage stands is hereby declared unsanitary and dangerous to health and is forbidden unless adequate provision is made for washing and sterilizing such cups or glasses after each service.

All dealers in beverages who are not provided with running water with soap in which to wash and sterilize glasses and serving dishes are hereby instructed to use individual cups of paper or other material which, after once using are to be destroyed.

RULE 21.

PROTECTION OF MEAT.

In order that the sale of meats may be conducted under sanitary conditions and in conformity with the laws of the State, butchers and dealers in meat are hereby instructed that carcasses and parts of carcasses dressed for sale for food, fresh meat products of every description, such as hamburger steak, sausage, etc., poultry and game, fish and fish products, etc., must at all times be kept in a refrigerator, cold storage room or ice box, or if displayed for sale properly protected by glass, wood or metal cases.

Dealers shall be permitted to keep on the meat block only such parts of

carcasses as may be necessary to the expeditious conduct of their business. This notice shall not apply to hams and bacons, wrapped in paper, burlap, or other impervious material, or to the lard which is kept covered in containers. Whole carcasses of hogs, sheep or veal and quarters of beef, hams, bacon, smoked shoulders and other smoked meat products prepared in skins, may be hung outside the refrigerator or cold storage room only when protected from flies, dust, dirt and all other foreign or injurious contamination, by clean, white curtains of cloth or other suitable material.

Passed by the State Board of Health.

July 2, 1915.

NOTICE TO FOOD AND DRUG INSPECTORS, HEALTH OFFICERS AND INSPECTORS AND THE GROCERY TRADE.

Your attention is called to the passage of the following order at the last quarterly meeting of the State Board of Health:

"Whereas the decisions of the Supreme Court of the United States in cases concerning the sale of food, transported in interstate commerce and sold in original packages, reserve to officials charged with the enforcement of the Federal Food and Drugs Act the authority to regulate the labeling and character of such foods, the chemist to the State Board of Health, who is the State Food and Drug Commissioner, is hereby instructed to follow without exception the regulations for the enforcement of the Food and Drugs Act, promulgated by the Secretaries of Agriculture, the Treasury and Commerce and Labor, in the enforcement of the Pure Food and Drug Law, Chapter 104, Acts 1907, in the case of all food sold in interstate commerce in the original unbroken package."

Pursuant to this order, all food inspectors and the grocery trade are advised that hereafter no objection will be made to the sale in interstate commerce, in the original unbroken package of food which is preserved with sodium benzoate* or sulphur dioxide, provided that each container or package of such food is plainly labeled to show the presence and amount of the preservative.

Your attention is further directed to the fact that the rules promulgated for the enforcement of the Federal Food Law govern procedure in Indiana and that, in effect, all goods in the original package are to be accepted as legal if they comply with such regulations.

H. E. BARNARD,
State Food and Drug Commissioner.

*Food Inspection Decision No. 104.

"It having been determined that benzoate of soda mixed with food is not deleterious or poisonous and is not injurious to health, no objection will be raised under the Food and Drugs Act to the use in food of benzoate of soda, provided that each container or package of such food is plainly labeled to show the presence and amount of benzoate of soda."

GEORGE B. CORTELYOU,
Secretary of the Treasury.
JAMES WILSON,
Secretary of Agriculture.
OSCAR S. STRAUS,
Secretary of Commerce and Labor.

REPORT
FROM THE
WATER LABORATORY

REPORT OF THE WATER LABORATORY

H. E. BARNARD, Ph.D.

In the year ending October 1st, 1,520 samples of water were analyzed. One thousand, two hundred and ninety-five of these samples came from private supplies and were submitted either by the owners of the supply at the suggestion of his physician or by town and city health officers. Two hundred and twenty-five samples came from public supplies; 690 from deep wells; 569 from shallow wells; 47 from streams; 84 from springs; 37 from cisterns and 23 from ponds and lakes.

Of the total number examined 966 were found to be potable; 469 were condemned as bad and 85 were of doubtful character. In percentage terms 63.5 per cent of all the waters examined were of good quality. In 1914, 62 per cent were so reported. Thirty-eight and eight-tenths per cent were bad as against 25.1 per cent in 1914. Five and seven-tenths per cent were reported as of doubtful quality.

Of the 1,295 supplies examined 570 were taken from deep wells; 555 from shallow wells; 37 from cisterns and 63 from springs. Seven hundred and eighty-five of all the private supplies examined were potable; 437 were bad and 73 of doubtful quality.

Of the 225 public supplies, 181 were listed as good; 32 bad and 12 doubtful. One hundred and twenty of the public supplies were taken from deep wells; 14 from shallow wells; 47 from streams; 21 from springs and 23 from lakes and ponds. But 9 of the 120 deep well supplies were bad and but 6 were doubtful; 105 were passed as of satisfactory quality. The stream supplies used by the public were, however, found to be in most unsatisfactory condition. Seventeen of the 47 supplies were condemned as bad and one was reported as of doubtful quality.

Of the 690 deep well supplies examined 552 were classed as good; 103 as bad and 35 of doubtful quality. In other words, the chances of securing a good water from a deep well are as 5 to 1 in the case of the shallow wells. However, we find that of the 569 samples analyzed but 243 were good; 291 were bad and 35 were of doubtful quality. If we add to the number of bad the doubtful samples, as we very properly should do, as an extra precaution, we find that 57.3 per cent are unsatisfactory. The percentage of unsatisfactory shallow wells

has from year to year departed but little from 60 per cent and the work for this year bears no exception to the rule.

Of the 84 springs analyzed 56 were found to be good, 21 bad and 7 were of doubtful quality. A spring cannot be accepted as a safe source for a water supply unless an analysis has proved it to be a true deep water unpolluted by surface contamination. Cisterns are frequently dirty and polluted by washings from the roof. Of the 37 cistern waters examined but 14 were good; 18 were listed as bad and 5 were of doubtful quality. Nineteen of the 23 pond and lake supplies examined were good and 4 were bad.

The work of the year shows that on the whole the public supplies of the State are of good quality. The deep well waters are reasonably satisfactory. Shallow well waters on the contrary are so frequently polluted that they can never be trusted as safe supplies until they have been carefully examined by competent analysts.

The report will show in full the comprehensive study made of the water supplies, both public and private, of Logansport and Noblesville. The reports above referred to do not include any of this data. Special attention is called to the character of the well supplies at Logansport and Noblesville. It will be noted that while a large number of the Logansport supplies are grossly polluted most of the Noblesville waters are passed as potable. This is undoubtedly due to the fact that wells at Logansport are sunk in fissured rock, while at Noblesville the wells usually pierce beds of sand and gravel which are of themselves excellent filtering mediums.

Bacteriological studies have also been made of a large number of samples collected or shipped to us for that purpose. This data is elsewhere reported.

WATER SUPPLIES INDIANA

1915

1520 Total Number Examined

690 Deep Wells

569 Shallow Wells

84 Springs

70 Miscellaneous

47 Streams

37 Cisterns

23 Ponds & Lakes

Quality of Supply

1520 Total Number Examined

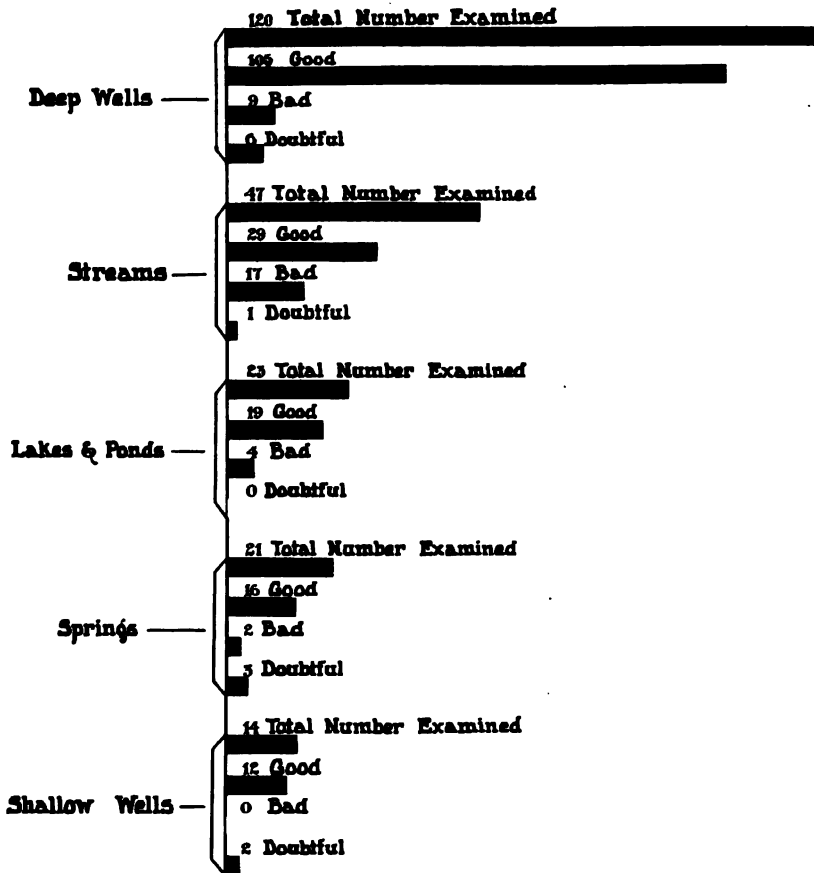
966 Good

469 Bad

85 Doubtful

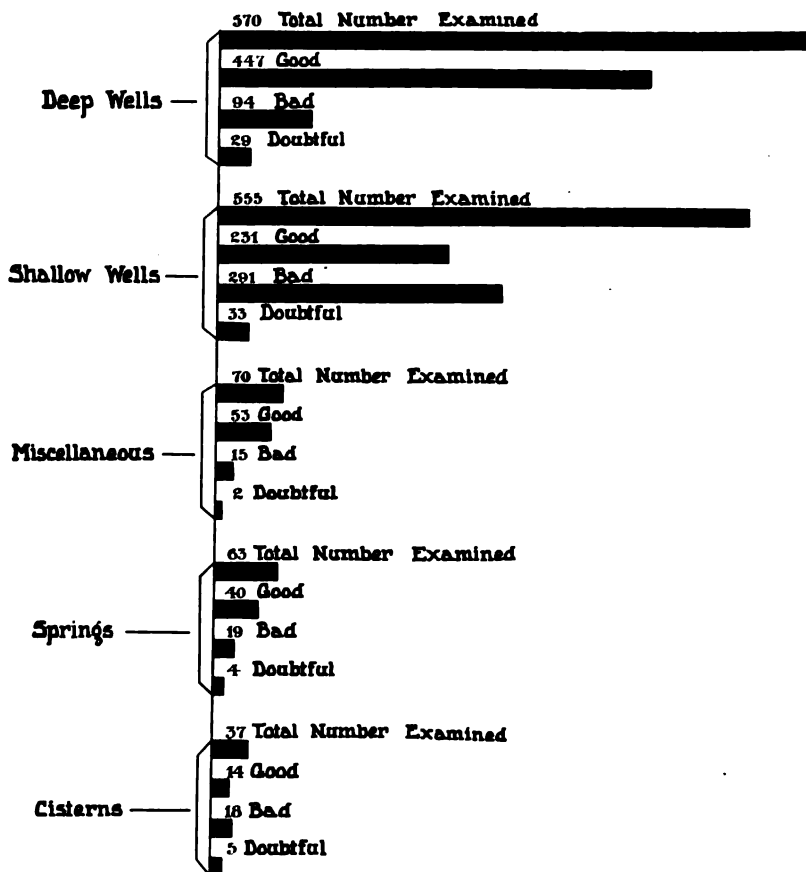
CONDITION OF PUBLIC WATER SUPPLIES IN INDIANA

1915



CONDITION OF PRIVATE WATER SUPPLIES IN INDIANA

1915



Tabulation of analyses made in the Water Laboratory for the 10-year period 1906 to 1915 show that a total of 10,957 samples have been examined. Nine thousand thirty of these samples are from deep or shallow wells, the remainder from cisterns, springs, streams, ponds and lakes.

Of the 9,030 well supplies, 3,891 are derived from so-called deep wells, and 5,139 from dug or shallow driven wells. Records of the laboratory show that 17.8 per cent of all deep wells and 58.4 per cent of all shallow wells are unsatisfactory as water supplies.

Another plan of classification as to the ownership of the wells show that 19.6 per cent of all private deep water supplies are unsatisfactory while only 12.7 per cent of the deep wells of public water systems are not suitable for use. For this same ten-year period 37.9 per cent of all public supplies furnished by shallow wells are unsatisfactory while 59.3 per cent of all privately owned shallow wells showed evidence of surface pollution.

The figures for the ten-year period agree quite closely with findings made by the analyses of the 1,259 well supplies for the year 1915, showing that the character of the samples sent to the laboratory has not changed to any great extent. An exception to this is the character of public supplies taken from shallow wells. The number of unsatisfactory public supplies from this source has been greatly reduced because public water systems have made special effort to obtain supplies of more reliable quality.

TABLE SHOWING SOURCE AND NUMBER ANALYZED—190

Source.	1906	1907	1908	1909	1910
Deep wells.....	207	221	288	269	341
Shallow wells....	380	267	419	478	381
Cisterns.....	27	18	27	21	32
Springs.....	26	23	47	51	31
Streams.....	18	67	33	38	19
Lakes and ponds	8	18	36	19	17
Miscellaneous....	18	15	68	46	.....
Totals.....	684	619	918	922	821

BACTERIOLOGICAL EXAMINATIONS

It has been one of the purposes of the State in bettering the public water supplies to have a laboratory in connection with such work. The laboratory is usually carried from place to place. Reports of such investigations are made. "special investigations" conducted by the laboratory during the year.

In addition to work of this character it is necessary to examine one or more sets of samples from a purification plant. Such work is carried on in the laboratory. Occasionally also, bacteriological work is made of samples of water taken from a number of places. The work of the bacteriological work in the Indiana State Laboratory is ever, small when compared with the total work carried on in connection with water supply investigations throughout the various parts of the State.

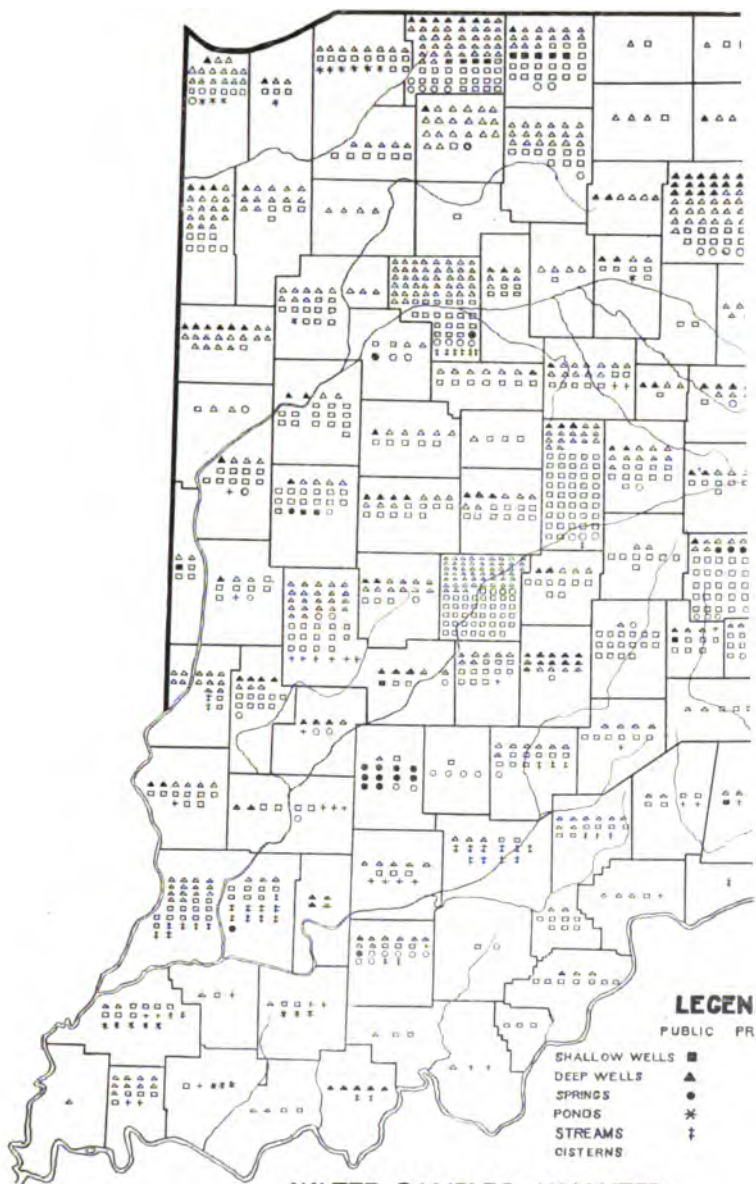
SPECIAL BACTERIOLOGICAL EXAMINATIONS
INDIANAPOLIS LABORATORY, WISCONSIN

Samples from Private Supplies.....

Samples from Public Supplies.....

Total Number of Samples.....

Source.	Number of Samples.
Terre Haute	12
Logansport	20
Crawfordsville	2
Princeton	16
Seymour	15
Aurora	18
Columbus	2
Mishawaka	5
Sisters of St. Francis Convent	8
	<hr/>
Total	98



WATER SAMPLES ANALYZED

OCTOBER 1-1914 to OCTOBER 1-1915

THE EPIDEMIC OF TYPHOID FEVER AT LOGANSPOUT, IND., DURING THE FALL OF 1914.

J. C. DIGGS.

A study of the history of typhoid fever in Logansport discloses the fact that the disease has been prevalent to a very high degree for several years, existing in both the epidemic and endemic forms. In order to present the data in a more graphic manner, the following tables of cases and deaths are tabulated.

Cases	Jan.	Feb.	Mar.	April	May	June	July	Aug	Sept.	Oct.	Nov.	Dec.	Total
1910....	1	4	4	...	...	...	3	...	13	6	...	...	31
1911....	1	3	3	2	...	...	...	...	...	...	...	...	9
1912....	6	...	22	37	13	6	2	2	1	4	4	...	97
1913....	5	2	1	2	...	...	...	2	5	5	23	10	55
1914....	23	29	34	3	8	6	2	2	5	34	41	...	*187
Deaths.													
1910....	...	...	...	...	1	...	...	...	2	1	...	1	5
1911....	...	...	...	1	...	...	...	...	...	...	...	...	1
1912....	1	...	4	6	1	...	1	...	...	1	...	...	14
1913....	1	1	...	1	...	...	...	...	2	1	4	3	13
1914....	2	6	5	5	1	1	...	2	...	3	4	...	*29

*December not included.

These figures show three distinct and very severe epidemics, one occurring from March to June, 1912, one November to April, 1913, and the present epidemic which had its onset early in October, 1914. It is quite noticeable that these three epidemics have occurred at a time of the year when flies, one of the common carriers of the infection, must be excluded as a possible cause. It is also to be noticed that these outbreaks did occur at the seasons when the epidemics are usually caused as the result of a contaminated water supply.

In February, 1912, an ice gorge was formed in the Wabash River a few miles below Logansport. This caused the water to "back up" in the city forcing the sewage up through the manholes of the sewerage system and flooding large portions of the city with polluted water. Many dug wells were filled with the "back-water" and upon the subsidence of the flood, the sections of the city bordering the rivers were covered with a layer of filth. Shortly following this period, an epidemic of typhoid broke out, which was unusually prevalent in the lower sections of the city.

Logansport has only recently installed a sewer system. At the time of its construction, on account of the thin soil, much blasting

of the underlying limestone stratum the rock were opened and as a result. In other sections wells were filled by age. No particular cause was ascribed 1913 and 1914. However, the public looked upon with suspicion.

The present epidemic started in October worse until December 1st. Many cases but the later cases were traced to "contact". First a study was made as to geographical distribution if any particular section was especially affected. The preparation of a city map showing the distribution of cases was determined that the cases were distributed proportionately to the population.

From the data compiled from the information of the City Board of Health and that collected from the attending physicians, tabulations of the Name of the Patient, Age, Sex, Occupation, Water and Milk consumed, and illness in the family were made.

Ninety cases in all were investigated. From seventy was obtainable. Sixteen in which typhoid fever already existed. These were "contact" cases. Thirty-three of these cases water was used all or a part of the time from out of the city. Twelve apparently from a particular milk supply.

Without a doubt no one factor can be held responsible for all of the cases. As long as typhoid fever is a contagious disease, we will have an unusual number of cases resulting. Without a doubt the principal factor responsible for the greater number of cases is the water supply is depended upon as a source of infection. So long as we expect to have typhoid fever in contaminated wells may be traced to the contamination of the joints not being sealed sufficiently.

The typhoid fever patients in Logan are divided into very large classes.

(1) Those using city water.

(2) Boarders (those eating and drinking at boarding houses).
Railroad employees who eat and drink on the road.
time.

(3) "Contacts." Frequently when a case of typhoid existed in a family other members would later take down with the disease.

THE PUBLIC WATER SUPPLY.

The public water supply of the city of Logansport is taken from Eel River. Although Eel River above the city of Logansport receives the sewage of no city yet, it cannot be said that any surface stream with a thickly populated watershed is free from pollution received in surface wash. It may be emphatically stated that no surface supply should be used for drinking purposes without previous purification of some sort. Moreover, Eel River receives local pollution at three points, namely, the St. Joseph's Hospital Drain, the drain emptying at the Davis Bridge and Horney Creek. Samples were taken from all three drains and each found to be heavily charged with colon bacilli.

The St. Joseph's Hospital is located about one and one-half miles above the waterworks intake. A septic tank of three apartments receives the sewage of this institution. The last apartment is constructed of building tiles thus permitting the liquids to seep away into the gravel stratum in which it is constructed. No evidences of a drain from this tank to the branch passing through the hospital ground was to be found and presumably none existed. It may also be said that the hospital authorities dose the third chamber of the septic tank with "hypochlorite" each day as an additional precaution to prevent pollution of the river. In addition to this the wash water from the hospital laundry receives a treatment with a creosote preparation to thoroughly disinfect any of the laundered clothing.

Samples of water taken from the stream through the hospital ground was found to be heavily loaded with B. Coli.

The drain at the Davis bridge receives the surface wash from a considerable portion of the city and also considerable water which falls on the adjoining land in the county. During times of hard rains the refuse from back yards and in some cases the filth from out-houses is washed into Eel River. The greater part of the section drained by this stream would naturally be carried to the Wabash River. However, some years ago the course of the flow was diverted to the Eel River.

Both of these drains should be taken care of so as not to pollute Eel River. This could be and by all means should be done by the extension of the Douglas Street sewer. Great care should be taken that no surface pollution reaches the stream. With the construction

The determination for the B. Coli group was made by planting two ten c.c. portions in a lactose broth fermentation tube. In case of gas formation in 24 hours, a plate of Endo medium was inoculated and bright red colonies fished out into lactose broth. Only when positive in all cases was B. Coli reported as being present.

At the time of collection of samples 7, 8, 9, 10 and 11 the water was being treated with hypochlorite at the rate of 16 pounds per million gallons. Although this is an exceedingly high rate of chemical feed, it was at times not a sufficient amount to produce proper disinfection. Thereafter the water was treated with 20 pounds of hypochlorite per million gallons. From data found it is quite apparent that this high rate of chemical feed is necessary to produce a water free from B. Coli and any decrease in this rate of feed would result in great danger to the city and a complete stoppage of the treatment would mean that the public would be supplied with a sewage polluted water which might carry any water-borne disease. Any mechanical regulating arrangement for sterilizing water is always liable to fail, and any false security given by such a means of purification may result quite disastrously should either the human or mechanical element fail in feeding the proper amount of the disinfectant.

The exceedingly high amount of chemical necessary in the care of the Logansport water shows the stream to be seriously polluted not only with bacteria, but with organic matter. The treatment of such a water can never be successfully accomplished with hypochlorite when no storage period is allowed for the water.

Rumors from various sources also indicated that during the months of September and October the chemical feed was interrupted at different times. This fact alone may account for many of the cases of typhoid now existing in the city.

The public supply of Logansport can never be said to be safe until the supply is properly filtered and, in addition, treated with chemical disinfectant. To properly carry out filtration, not only is it necessary that the man in charge of filtration plant should be thoroughly acquainted with the principals of the mechanical filter, but should also be able to conduct a very careful laboratory control of the operation of the plant. It is necessary that the operator know to just what extent he is removing the impurities from a water. Such a control is impossible unless samples are tested daily to determine the bacterial content of the filtered water. Not only does the laboratory control serve as an indicator of the condition of the water, but it enables the operator to run the plant much more economically. The chemical

CONCLUSION.

To subdue the present outbreak of typhoid fever and to prevent epidemics in the future certain changes in the operation of the water plant and improvements in sanitary conditions of the city of Logansport should be made. These may briefly be stated as follows:

- (1) Treat the present city water supply with hypochlorite at the rate of 20 pounds per million gallons.
- (2) Hasten the work on the filter plant in order to bring about its completion as soon as possible.
- (3) Extend the present sewer system to provide for the St. Joseph's Hospital drain and surface water reaching Eel River at the Davis Bridge.
- (4) Construct a waterway so as to conduct Horney Creek below the 10th Street dam.
- (5) Establish a control laboratory for the filter plant.
- (6) Require all milk sold in the city to be pasteurized.
- (7) Extend all sanitary sewer lines as rapidly as possible and require all citizens to connect.
- (8) After the filter plant is producing a potable supply, conduct a sanitary survey of the private wells of the city that polluted wells may be eliminated as a source of infection.
- (9) Emphasize the fact that typhoid fever is a dangerous and infectious disease and must be treated accordingly.

If these provisions are carried out there would then remain no reason why Logansport should be burdened with recurring epidemics of typhoid. After a potable water supply is obtained and a sanitary system of sewage disposal is installed, there remains no unusual factor which should aid in the scattering of the disease. It is sincerely to be hoped that Logansport may soon bring about these improvements—it will pay in health many times the financial expense incurred.

March 6, 1915.

MR. THOMAS JONES,
Wabash, Indiana.

MY DEAR MR. JONES:

A report has reached my desk of an investigation of the mill-race operated by you at Wabash, Indiana. The report is as follows:

"The mill-race is fed by a creek which has been dammed about one-fourth mile from the city, diverting water into the race-way. The race flows along the side of a pike road and between the road and a hill, upon the slope of which there are many trees, shrubbery and other vegetation. This vegetation has accumulated in the race-way until in many places

THE CHEMICAL TREATMENT OF LAKE MICHIGAN WATER BY NORTHERN INDIANA CITIES.

J. C. DIGGS.

The southern end of Lake Michigan on account of its polluted water has long been a favorite study of sanitarians and engineers, who have suggested plan after plan for lessening the pollution. All have come to the same conclusion, "Cities cannot empty their filth into Lake Michigan and expect to pump good water out."

Lake Michigan was once a pure body of water, but now, at least for small sections, it is a sewer outlet and several miles from shore its waters are contaminated by the bacteria and organic filth emptied into it by the sewers of the cities and manufacturing establishments along the shores.

Fortunately municipalities have recognized the contaminated condition of the water near the shores and have generally extended their intakes to the deeper waters. It is highly probable, however, that this extension of intake lines was carried to escape the great turbidities which are the result of high winds in shallow water, rather than to escape the pollution from the sewers. The sense of sight is given great importance by the layman in judging a water supply—and unfortunately—the layman, rather the engineer, has had a large part in determining the location of the water supply intake of these cities.

Shortly after the discovery that certain organisms could be killed by very small amounts of certain chemicals, officials were quick to jump to the conclusion that by "adding something" to the Lake Michigan water they could make it satisfactory. This has been found to be only partially true for a water seriously contaminated with sewage has so much organic matter dissolved that when treated with enough chemical to kill the harmful organisms, an unpleasant taste and odor resulted.

In order to determine the present condition of the water supplies of our Indiana cities bordering Lake Michigan, we have visited each of these cities and collected such data as relates to their water supply, both from an aesthetic and sanitary standpoint.

One point greatly to the credit of these cities, and an item unusual for Indiana cities of their size, is the fact that all of them maintain as a part of their public health departments a laboratory for examining samples taken from their public water supplies. These

cities are to be highly commended for their particular line of public health work which will ultimately be followed by all cities in their disease prevention work.

HAMMOND, 1

Hammond, with an estimated population of 10,000, gets its water supply through an intake one mile from the lake. The water is taken from the polluted end of the lake immediately adjacent—the Whiting sewer and one-half miles away is the new intake. The water is taken directly from the lake and runs through the mains without sedimentation or purification or other means.

In the fall of 1914 a public health laboratory was established at Hammond. In this laboratory bacterial examinations are made once each week. A record for the week ending November 14th shows that the B. Coliform count 3 times in 14 tests in 1 c.c. of water. The count for this period was approximately 100.

During the summer months the population of the city has a "musty" taste in the water. During the winter months the turbidity of the water is very high making it difficult to see. No record of the turbidity, however, has been kept.

BACTERIAL COUNTS

November 14, 1914	.....
December 25, 1914	.....
December 25, 1914	.....
December 25, 1914	.....
December 28, 1914	.....
December 28, 1914	.....
December 29, 1914	.....
December 29, 1914	.....
January 13, 1915	.....
January 21, 1915	.....
January 27, 1915	.....
February 4, 1915	.....
February 11, 1915	.....
February 18, 1915	.....
February 25, 1915	.....

Chemical treatment by means of chlorine gas at Whiting in 1913. In practice the chlorine gas is used in the form of a solution of calcium hypochlorite.

a 50-gallon tank. The flow is so regulated that 4 of these tanks are used each 24 hours—the treatment being applied at the approximate rate of 13 pounds of "Hypo" per million gallons.

The chemical solution is fed into the suction well, the water supply being pumped from this well direct into the city mains.

The water as supplied to the public occasionally has a musty odor or taste and very frequently is complained of because of its "Hypo" taste. The average bacterial count of the water made on agar at 37 degrees C. is 15. Since December 1, 1914, B. Coli has been found present in 1 c.c. quantities on 3 days. Daily bacterial examinations are made in the laboratory.

The water is frequently turbid with slightly higher bacterial counts during times of high turbidity, however, B. Coli is scarcely ever present except at times when the wind blows hard from the Whiting sewer toward the waterworks intake.

RESULTS OF EXAMINATION.

WHITING.

Date.	Bacteria Per C.C. Agar 37° C.	B. Coli Presumptive.	Condition of Lake.
1914—			
Dec. 1.....	19	—	Lake rough.
2.....	24	—	" "
3.....	25	—	" "
4.....	29	—	" "
5.....	29	—	" "
6.....	23	—	" "
7.....	18	—	" "
8.....	28	—	" "
9.....	25	—	" "
10.....	9	—	Quiet.
11.....	7	—	"
12.....	10	—	"
13.....	5	—	Frozen.
14.....	6	—	"
15.....	2	—	"
16.....	4	—	"
17.....	0	—	"
18.....	6	—	"
19.....	9	—	"
20.....	2	—	"
21.....	9	—	"
22.....	2	—	"
23.....	9	—	"
24.....	4	—	"
25.....	3	—	"
26.....	11	—	"
27.....	12	—	"
28.....	23	+	"
29.....	29	+	"
30.....	31	+	"
31.....			
1915—			
Jan. 1.....	2	—	"
2.....	3	—	"
3.....	1	—	"
4.....	1	—	Calm.
5.....	3	—	"
6.....	0	+	"
7.....	9	—	"
8.....	3	—	"
9.....	2	—	"
10.....			

the water a pink color and again when the waste from the coke ovens reaches the intake the water has a taste of carboic acid. Both of these conditions are looked upon by the citizens of East Chicago as due to the chemical treatment of the Water Company.

The contract of the Water Company and the city of East Chicago is such that the Water Company cannot at the present rates afford to install a filtration plant. However, providing meters are placed in the distributing system the Water Company offers to produce a pure supply of water. This offer has not, however, been accepted by the city of East Chicago.

Bacterial examinations are made of the city supply by both the chemist of East Chicago and the chemist of the Water Company. Results show that B. Coli are practically always present in 25 c.c. quantities and practically never present in 1 c.c. amounts. The appended tabulation by Mr. A. W. Hedrich, chemist, East Chicago, results of daily tests as far as total counts, acid and gas forming bacteria are concerned.

The automatic regulation of the gas machine is exceedingly delicate and changes with every change in pumpage. The taste becomes excessive if more than two and one-half pounds liquid chlorine is used so no attempt is made to increase the dosage with increased turbidities.

GARY.

The intake of the Gary Water Company extends into the lake one and one-half miles and draws a water which is clear practically all of the time. No chemical treatment is applied at the present time, however, the Water Company expects to install a liquid chlorine plant shortly. This apparatus will be very similar to that now in use at the East Chicago plant.

Gary has a very well equipped municipal laboratory where water samples and other chemical and bacteriological specimens are examined.

Samples of water from the city supply are examined once each week. The record since January 1st is as follows:

Date.

January 6.....
January 21.....
January 27.....
February 10.....
February 11.....
February 12.....
February 13.....
February 19.....
February 26.....

B. Coli was present in the city supply but did not appear in 1 c.c. quantities. The water is slightly turbid at times of high winds and complains of a slightly musty taste.

MICHIGAN

Michigan City is now using 28 pumps. The recorded pumpage of 6.5 million gallons is probably the indicated pumpage. The estimated slippage as 50 per cent. of the total.

Weekly bacterial tests of the city supply. The B. Coli presumptive test is positive. The turbidity is increased. No quantitative determination.

Hypo taste is frequently noticed in the city supply. The water is turbid during high winds. The city supply can be had only by filtration.

Not a single one of these cities has a satisfactory water supply. Comparison shows a great difference in their supplies from an aesthetic point of view.

It has been found, of course, that the use of chemicals results in a high turbidity during winds. The greater amount of chemical necessary is inclined to have a "chemical" taste. This to a certain extent be eliminated by the use of hyposulphite of soda.

One item omitted in all of these is the addition of greatly to the quality of the water. It is large to hold two or three days' supply. A reservoir could be constructed which would be a lake. By such a device, not only would the minimum, thereby requiring less chemicals.

companying bad taste, but the character of the water might be determined prior to the time that it is pumped into the city mains. With a water which changes in character, with the change in the direction of the wind, an arrangement of this sort would be of much additional value.

CONCLUSION.

The supplies as furnished by northern Indiana cities must be improved in the future. Chemical treatment alone cannot continue to be satisfactory and especially is this true with a water excessively turbid during many periods of the year. Even if the contamination by sewage and manufacturing wastes is diverted to another outlet than the lake, the turbidity will remain, at least until the intakes are extended much farther into the lake. In the end it is believed that as a result of the demand for a public water supply of higher standard, plants for large storage or filtration plants must be built.

Appended is a table showing the effect of chemical treatment of the water supplies upon the typhoid death rate of these Indiana cities.

TYPHOID DEATH RATES FOR CERTAIN INDIANA CITIES.

CITIES.	1909	1910	1911	1912	1913	1914	Chemical Plant Installed.	Average Death Rate Before Chemical Plant Was Installed.	Average Death Rate For Cities Not Treating Water.	Average Death Rate Since Treatment.
Hammond.....	30	56	38.2	68.8	66.2	51.1			6 years 51.7	.....
Wabasha								5 years		

APRIL 9, 1915.

DR. H. E. BARNARD, Chemist,
Indiana State Board of Health,
Indianapolis, Indiana.

DEAR SIR:

At your direction I have investigated a condition existing at Muncie, called to our attention by Dr. C. G. Rea, Secretary of the Board of Health of that city.

I herewith enclose a report of this nuisance.

Very truly yours,
J. C. Diggs,
Water Chemist.

SANITARY SURVEY OF MUNCIE CREEK, MUNCIE, INDIANA

In company with Dr. C. G. Rea, Secretary of the City Board of Health, Muncie and Dr. H. T. Bowles, County Health Commissioner of Delaware an inspection was made on April 8, 1915, on that portion of Muncie Creek extending from the lower end of McCullough Park to a point above the plant of the Kuhner Packing Company.

Muncie Creek is a very small creek which receives the drainage of an area of farm land northeast of Muncie, and in addition to this the wash water and the liquid wastes from the Kuhner Packing Company which empties into it approximately one mile above McCullough Park.

During past years in the hot dry season of the year, the flow of the creek was so small that sufficient dilution was not obtained to render the packing house waste unobjectionable. The meat products waste collected on the banks of the stream and putrifying gave off a very offensive odor. The condition of the stream at present is very satisfactory, the investigation having been requested to forestall any nuisance in the future.

Recently the packing company has constructed a waste disposal plant consisting of grease skimming chambers, septic tanks and settling basins with provisions made for chemical treatment by means of chloride of lime in case it becomes necessary.

At present the waste is being turned directly into the creek from the grease skimming chambers, however, this will be discontinued immediately. It is believed that this purification plant will oxidize the wastes from this plant so that they will not in the future produce an offensive odor.

It is recommended, however, that the creek be cleaned in order that the accumulation and cause a nuisance in the future.

DR. H. E. BARNARD, Chemist,
Indiana State Board of Health,
Indianapolis, Indiana.

DEAR SIR:

At your direction I have completed an inspection of the Logansport Water Works System. This inspection takes up some matters not directly connected with the filter plant, but which may have a decided effect on the Logansport. My report, herewith attached, is for your information.

Respectfully,
Re

REPORT OF THE INVESTIGATION PLANT OF THE LOGANSPORT LOGANSPORT, IN

J. C. DIGGS.

The Logansport Water Works System was established in 1888 and since that date has drawn its supply of water from the Wabash system.

EEL RIVER.

Eel River has its source in the lake in the northern Whitley and northwestern Allen counties and flows in a southwesterly direction across Whitley, Allen and Boone counties and empties into the Wabash River. Its length is approximately 110 miles. The river is long and narrow. The tributaries are many of them rising from the small lakes and swamps, which are very largely fed by springs. The stream's discharge regular. The drainage area is about 1,000 square miles.

A gage was established at Logansport by the Department of Geology during the year of 1898 and supplementary current readings

for the period from July, 1910, to July, 1911, to be 125 second feet or 80,000,000 gallons per day.

No large city above Logansport sewers into Eel River, nevertheless, the stream does receive considerable pollution from several minor sources. Examination of samples from this river disclose that the stream is far too badly contaminated to permit its use in the raw state as a public supply. This fact is further evidenced by the extremely high typhoid rate which has existed in the city of Logansport for some years past. Treatment of the city supply by means of "Hypo" has been carried on part of the time during the last two years with partial success. An amount of the chemical sufficient to render the water free from dangerous bacteria usually results in an objectionable taste in the water.

THE PURIFICATION PLANT.

In November, 1912, a city election resulted in the decision to construct a purification plant. As the result of bids submitted in May, 1913, a plant of the gravity filter type was decided upon.

This purification plant is comprised of an intake, low duty, raw water pumping plant, a coagulating and sedimentation basin, eight gravity filters, a filter house containing apparatus for the storage and preparation of chemicals in solution and laboratory and a clear well storage basin located under the filters.

THE INTAKE.

Under normal conditions the raw water will be pumped directly from the "stilling" basin, which is located in the race, through which flows the water used in the turbines, which operate the pumps furnishing the city pressure. This basin is constructed of concrete and timber and has a capacity of practically one-half million gallons. A second intake may draw water from above the dam which is located about 600 feet above the raw water pump house. A 36-inch cast iron pipe, controlled at both ends by sluice gates, may bring the supply to the raw water pumps in case the race is closed for repairs or other reasons.

THE RAW WATER PUMPING STATION.

The raw water pumping station consists of three electrically driven, Worthington centrifugal pumps, each of 4,000,000 gallons capacity per day, coagulant feeding device and float controls for automatically regulating the work of the pumps.

"Hypochlorite" is applied at two points; as the water leaves the sedimentation basin and as the filtered water goes into the suction line. This double chemical treatment permits the addition of a comparatively large amount of the "Hypo" to the settled water, any objectionable taste or odor being removed by the filters. Treatment at this point also gives a long contact period before the water is pumped into the mains. Treatment at the suction will probably not be necessary during a large part of the year.

THE PUMPING PLANT.

Two 24-inch cast iron intakes lead from the clear well to the pumping plant. This plant consists of four pumps. These are, one Allis-Chalmers cross compound condensing steam pump with a capacity of 6,000,000 gallons per 24 hours, one Fairbanks Morse tandem, compound condensing steam pump with a capacity of 3,000,000 gallons per 24 hours, one Laidlow-Dunn-Gordon water power pump with a capacity of 3,000,000 gallons and two Holly combination steam and water pumps at 1,500,000 each. Connections will be made so that all normal pumping will be done by water power.

A 24-inch emergency intake extends to the river in order that water may be taken direct from this water should an accident prevent the use of the filter plant.

OPERATION OF THE FILTER PLANT.

The Logansport plant was put in operation on March 25, 1915. During the three weeks following this time the water was unusually clear for this time of the year, the unusual low turbidity making the tuning up of the filter more difficult than if the water had contained a greater amount of suspended matter. The alkalinity of the water was approximately 200 parts per million.

The Mayor and the Secretary of the City Board of Health requested that an inspection of the Water Works System be made by the Water Department of the Indiana State Board of Health. In requesting this inspection the State department was asked to determine if the purification plant came up to certain chemical specifications and to determine at what date the public could be advised that the city supply could be safely used for drinking and domestic purposes.

This inspection was begun on April 12th and continued in connection with laboratory examinations during the entire week. Dur-

feeding of the chemical solution was determined for each link of the float control chain. When the tapered rod which permits the least flow of chemical is used the calibrations of the chemical feeding device for a 4 per cent alum solution are as follows:

Link Number.	Grains Per Gallon Pumping Rate 4% Alum Solution Used.
1 .....	.21
2 .....	.30
3 .....	.38
4 .....	.52
5 .....	.67
6 .....	.83
7	1.05
8	1.20

The general formula to be used in calculating the rate of feed when a 4 per cent solution is used is grains per gallon = $\frac{1.045,000}{Xy}$ X = rate of pumping in gallons per hour. Y = number of seconds required to fill a pint cup. When pumping at a 250,000 gallon rate this formula becomes $\frac{4.18}{Y}$ = grains of alum per gallon.

The same formula may be used for the other tapered rods of the feeding device.

Final inspection of this plant was made on May 4th and 5th. The inspection at this time was made principally to determine which of the suggestions previously given verbally to those directing the work of constructing and operating the plant had been carried out.

As a result of this final inspection of the Logansport Water Works System, the following statements and recommendations are made:

1. Laboratory examinations show that the purification plant constructed by the Roberts Filter Manufacturing Company is producing an effluent suitable for drinking purposes. The bacterial content of the filtered and chemically treated water (determined on nutrient agar medium incubated at 37°) averages approximately 25 per c.c., a figure which complies with the specification required of the plant.

The filter plant effluent is free from undecomposed alum, is clear and free from color and suspended matter visible to the naked eye. .

The filters as adjusted are capable of delivering exclusive of wash water, 8,000,000 gallons of water per 24 hours.

**BACTERIA EXAMINATIONS OF SAMPLES OF WATER FROM
LOGANSFORT WATER WORKS SYSTEM.**

Date.	Sample Number.	Source.	Broth Tubes.			Per c.c. Bacteria	
			1 c.c.	10 c.c.	1 c.c.	37°.	20°.
4-13-15.	1	Raw water.	+	+	.....	100	1,800
4-13-15.	2	Settled water (treated)	+	+	.....	46	275
4-13-15.	3	Effluent of F 1.	+	.....	.....	26	240
4-13-15.	4	Effluent of F 2.	-	.....	.....	22	75
4-13-15.	5	Effluent of F 4.	-	.....	.....	23	200
4-13-15.	6	Effluent of F 5.	+	.....	.....	42	300
4-13-15.	7	Effluent of F 6.	-	-	.....	45	300
4-13-15.	8	Effluent of F 8.	-	+	.....	70	125
4-13-15.	9	Tap—Laboratory	-	-	-	15	25
4-14-15.	10	Raw water.	-	+	-	775	850
4-14-15.	11	Settled water (treated)	-	+	-	195	650
4-14-15.	12	Settled water (untreated)	+	+	-	400	560
4-14-15.	13	Effluent of F 1.	-	-	.....	45	300
4-14-15.	14	Effluent of F 2.	-	.....	.....	35	250
4-14-15.	15	Effluent of F 4.	-	.....	.....	19	360
4-14-15.	16	Effluent of F 5.	-	.....	.....	50	350
4-14-15.	17	Effluent of F 7.	+	.....	.....	90	300
4-14-15.	18	Effluent of F 8.	+	.....	.....	100	200
4-14-15.	19	Tap	-	-	-	19	85
4-15-15.	20	Raw water.	+	+	-	500	.....
4-15-15.	21	Settled water (treated)	-	+	-	140	.....
4-15-15.	22	Settled water (untreated)	+	+	+	270	.....
4-15-15.	23	Effluent of F 1.	-	.....	.....	45	.....
4-15-15.	24	Effluent of F 4.	-	.....	.....	120	.....
4-15-15.	25	Effluent of F 6.	-	.....	.....	90	.....
4-15-15.	26	Effluent of F 7.	-	.....	.....	75	.....
4-15-15.	27	Effluent of F 8.	-	-	.....	120	.....
4-15-15.	28	Tap	-	-	.....	32	.....
4-16-15.	29	Raw water.	-	+	-	.....	.....
4-16-15.	30	Settled water (treated)	-	.....	.....	.....	.....
4-16-15.	31	Settled water (untreated)	-	+	-	125	.....
4-16-15.	32	Effluent of F 1.	-	-	.....	40	.....
4-16-15.	33	Effluent of F 2.	-	+	.....	75	.....
4-16-15.	34	Effluent of F 3.	-	.....	.....	25	.....
4-16-15.	35	Effluent of F 4.	-	.....	.....	50	.....
4-16-15.	36	Effluent of F 5.	-	.....	.....	25	.....
4-16-15.	37	Tap	-	-	.....	20	.....
4-19-15.	38	Tap—402 East Main	-	-	.....	8	.....
4-19-15.	39	Tap—1115 Pleasant Hill...	+	+	.....	450	.....
4-19-15.	40	Tap—1211 N. 3rd.	-	-	.....	23	.....
4-19-15.	41	Tap—715 N. 3rd.	-	-	.....	21	.....
4-19-15.	42	Tap—722 W. Linden	-	-	.....	16	.....
4-19-15.	43	Tap—413 Wilkinson	-	+	.....	21	.....
4-19-15.	44	Tap—410 Burlington	-	-	.....	12	.....
4-19-15.	45	Tap—112 Burlington	-	-	.....	22	.....
4-19-15.	46	Tap—Police station	-	-	.....	22	.....
4-19-15.	47	Tap—1609 High	-	-	.....	28	.....
4-19-15.	48	Tap—311 20th	-	-	.....	21	.....
4-20-15.	49	Tap—1208 Michigan Av...	-	-	.....	15	.....
4-20-15.	50	Tap—1626 Michigan Av...	-	-	.....	11	.....
4-20-15.	51	Tap—1700 Clifton	-	-	.....	23	.....
4-20-15.	52	Tap—Columbia School	-	-	.....	13	.....
4-20-15.	53	Tap—1321 Silbert	-	-	.....	10	.....
4-20-15.	54	Tap—316 Wheatland	-	-	.....	12	.....
4-20-15.	55	Tap—West Side Engine House	-	-	.....	15	.....
4-20-15.	56	Tap—Baumont Flats	-	-	.....	12	.....
4-20-15.	57	Tap—15th Street Engine House	-	-	.....	15	.....
4-20-15.	58	Tap—1719 Broadway	-	-	.....	45	.....
4-21-15.	59	Tap—527 Brown	-	-	.....	22	.....
4-21-15.	60	Tap—616 Wheatland	-	-	.....	35	.....
4-21-15.	61	Tap—315 Miami	-	-	.....	30	.....
4-21-15.	62	Tap—111 Ottawa	-	+	.....	27	.....
4-21-15.	63	Tap—205 Ottawa St.	-	-	.....	17	.....
4-21-15.	64	Tap—1115 Pleasant Hill...	-	-	.....	65	.....
4-21-15.	65	Tap—1812 North	-	-	.....	25	.....
4-21-15.	66	Tap—2300 Broadway	-	-	.....	25	.....
4-21-15.	67	Tap—2305 Spear	-	+	.....	20	.....
4-21-16.	68	Tap—1106 Spear	-	-	.....	30	.....
4-22-15.	69	Tap—535 Bart	-	.....	.....	20	.....
4-22-15.	70	Tap—335 Burlington	-	.....	.....	10	.....

**BACTERIA EXAMINATIONS OF
LOGANSPOUT WATER WORKS**

Date.	Sample Number.	Source.
4-22-15...	71	
4-22-15...	72	Tap—Vivian Candy Stc
4-22-15...	73	Tap—1020 Erie Av....
4-22-15...	74	Tap—1422 North.....
4-22-15...	75	Tap—625 North.....
4-22-15...	76	Tap—2325 High.....
4-22-15...	77	Tap—1082 High.....
4-22-15...	78	Tap—1520 High.....
4-22-15...	79	Tap—710 Helen.....
4-22-15...	80	Tap—Red Cross Phar acy.....
4-22-15...	81	Tap—437 Grove.....
4-22-15...	82	Tap—Old High School..
4-22-15...	83	Tap—722 W. Melbourn..
4-22-15...	84	Tap—Dr. Rogers' office.
4-22-15...	85	Tap—D. Webster Schoo
4-22-15...	86	Tap—High School.....
4-22-15...	87	Tap—South Side Engi House.....
4-22-15...	88	Tap—1103 Broadway...
4-22-15...	89	Tap—West Side School.
4-22-15...	90	Tap—207 Montgomery..
4-22-15...	91	Tap—606 11th St.....
4-22-15...	92	Tap—1014 20th St.....
4-22-15...	93	Tap—26th & Broadway.
4-22-15...	94	Tap.....

DR. H. E. BARNARD, Chemist,
Indiana State Board of Health,
Indianapolis, Indiana.

DEAR SIR:

Acting under orders, I visited Elwood
company with A. D. Moffitt, City Engineer,
conditions which pertain to the straightening
tion of an intercepting sewer which may come
into the open channel of the stream.

REPORT OF THE INVESTIGATION OF THE PROPOSED
NEW CHANNEL FOR DUCK CREEK AND THE PRO-
POSED INTERCEPTING SEWER LINE AT
ELWOOD, INDIANA.

J. C. Diggs.

Duck Creek has its source northeast of Elwood, Indiana, and drains about 36 square miles of farm land before it reaches the limits of this city. On account of the crooked course of the stream, the construction of a new channel has been proposed. The proposed new channel, as shown on the accompanying map, is designed to remove the water fast enough that the adjoining property will not be flooded during times of high water.

The present channel of Duck Creek receives the effluent from the outfalls of 9 sewers. These sewers, as shown on the map, vary in size from 8 inches to 18 inches and drain not only the surface water of a considerable portion of the town, but receives the household wastes from this same area. During warm weather the water of this stream presents a very displeasing appearance and gives off the very offensive odor of decomposed sewage. In addition to this, mosquitoes breed in the pools of contaminated water, thus creating a nuisance and becoming a menace to the health of the city.

With the construction of the new channel for Duck Creek either (1) these old sewer outfalls will have to be extended to the new course of the stream or (2) an intercepting sewer line must be constructed to collect the sewage in one channel and empty it below the city. This latter plan is far more preferable—in fact, it is the only one which will improve conditions as far as beauty, sanitation and the mosquito nuisance are concerned.

This intercepting sewer line should start at North F Street and run down the side of the present channel of the creek, connections being made with all sewer outfalls along the line. It should extend to such a point below the city that the wastes will no longer be a nuisance to the citizens. This construction can be made more cheaply at this time than later.


Ultimately no city will be permitted to empty its sewage into a surface stream without previous purification of some sort. In order to carry on sewage purification economically, it is necessary to conduct all wastes to one point. To do this one central sewer is necessary. In the case of Elwood the central sewer can be constructed far

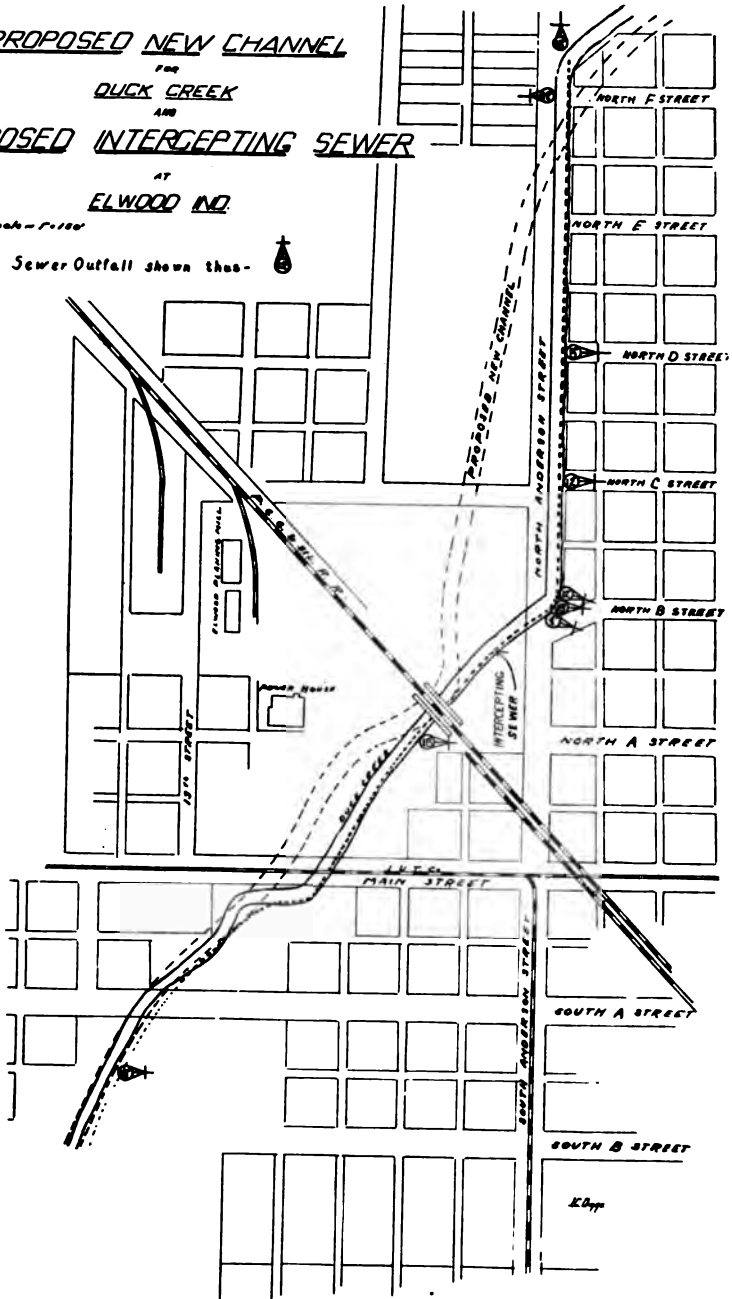
more cheaply at this time than at a later date when the old channel of Duck Creek will have been filled.

To make changes which are sanitary and for the permanent betterment of the city, such an intercepting sewer line should be constructed. With such changes the water of Duck Creek will be clean, pretty to look upon and not a menace to the city.

PROPOSED NEW CHANNEL
 FOR
DUCK CREEK
 AND
PROPOSED INTERCEPTING SEWER
 AT
ELWOOD IND.

Scale - 1" = 100'

Sewer Outfall shown thus - 



AN INVESTIGATION OF THE PUBLIC WATER SUPPLY OF EAST CHICAGO, IND.

J. C. DIGGS.

The following petition for an examination of the public water supply of the city of East Chicago under the Thornton Act, "An Act Concerning the Purity of Water Supplied to Any City or Town for Domestic Use," was received by the Indiana State Board of Health.

EAST CHICAGO, IND.,
June 1, 1915.

STATE BOARD OF HEALTH,
Indianapolis, Indiana.

GENTLEMEN:

The Board of Health of East Chicago hereby makes complaint to your honorable body that the water supply of said city is not always of sufficient purity to be considered safe. This complaint is based upon frequent analyses of the said water during the past six months by the City Chemist of East Chicago.

We, therefore, petition your honorable body to cause an investigation to be made of this water supply, with a view to remedying this menace to the health of the citizens of our city.

Respectfully yours,
BOARD OF HEALTH, East Chicago, Ind.
(Signed) SOLOMON N. GOLDBERGER, M.D.,
JAS. MCQUAID,
ROBERT AINSLEY, M.D.

In response to the above request, the State Board of Health has caused the public water system to be investigated. This investigation consisted of (1) the collection of data concerning the general pollution of that portion of Lake Michigan which borders the city of East Chicago, (2) a study of the East Chicago Water Works plant, special attention being paid to the location of the intakes, the character of water at these points and the chlorine disinfecting plant installed for treating the raw water, and (3) bacterial examinations, extending over a period of ten days, of the water supply furnished the citizens of East Chicago.

The water furnished the citizens of East Chicago by the East Chicago and Indiana Harbor Water Works Company, a private corporation, is taken from Lake Michigan, the intake being located 3,000 feet from the shore line. Before being forced into the city mains the water is treated with chlorine gas for the purpose of killing injurious sewage bacteria present in the raw water.

The waters of the southern end of Lake Michigan are very seriously polluted by the domestic sewage from the cities bordering it and by the industrial wastes of the factories built on its shores. In a report made by the Water Department of the Indiana State Board of Health in the year 1908, entitled, "The Sanitary Condition of the southern end of Lake Michigan Bordering Lake county, Indiana" the condition of that portion of the lake is stated most emphatically.

"The chemical and bacteriological survey of the southern portion of Lake Michigan adjoining Lake county shows the water of the lake to be grossly polluted and unfit for use as a source of water supply for drinking and domestic purposes.

This deplorable condition of a once pure and potable body of water is due to the great volume of sewage and manufacturing waste being poured into it by (a) the Calumet River, (b) The Glucose sewer, (c) the Standard Oil Company's sewer, (d) the sanitary sewers of the cities of Indiana Harbor, East Chicago, Whiting and that portion of Hammond known as Robertsdale, (e) the dumping of material dredged from the Calumet River."

Since the date of the above statement the condition has not materially changed. At that time the sewage from Indiana Harbor was emptied directly into the lake near the present intake pipe. Now it is discharged into the Grand Calumet River, which, during at least a portion of the time discharges into Lake Michigan near the water works intake through the East Chicago ship canal. The domestic sewage of the city of Gary now reaches the lake through the Grand Calumet River. The sewers of the Inland Steel Company, a plant of 4,000 employees, empty into the ship canal near its mouth.

The main intake of the East Chicago Water Company is located 3,000 feet into the lake. The depth of the water at this point is approximately 30 feet. During times of continued high wind from the northwest, not only is the turbidity of the water greatly increased, but the streams of sewage from the nearby outlets are swept before the intake. Frequently the wastes from the coke ovens of the Inland Steel Plant are carried to the intake. This waste material has the odor of phenol and is not only especially disagreeable, but at the same time is difficult to remove.

In February, 1914, the water company installed an apparatus for disinfecting the lake water with chlorine gas. Chlorine is a very good disinfecting agent and with a water reasonably free from organic pollution would very probably reduce the bacterial contamination to a satisfactory degree. At East Chicago, however, when

the water is treated with an amount of chemicals sufficient for killing of organisms, a most disagreeable taste is produced.

In the investigation of the bacterial content of the East Chicago water supply the first samples were taken on June 3, 1914, and each day thereafter, extending over a period of 9 days. This bacterial examination was carried out along the following lines; (1) Total bacterial counts on nutrient agar at 37°, (2) Presence of gas-forming bacteria determined by use of Lactose Broth and Lactose Bile when planting 10 c.c., 1 c.c. and .1 c.c. of sample, (3) Presence of acid-forming bacteria determined by Lactose Litmus Agar (4) and the presence of the B. Coli group in Nos. 2 and 3 of above, the group being defined in "Bacteriological Standard for Drinking Water" Reprint No. 232 Public Health Reports, U. S. Public Health Service.

A summary of the bacterial examinations is here tabulated:

TABLE NO. 1.

Number.	Bacterial Content Per C.C. on Nutrient Agar at 37°. (Average of five plates.)
1	840
2	620
3	31
4	81
5	36
6	890
7	1,220
8	98
9	321

The number of bacteria per c.c. determined on nutrient agar at 37° varies from 31 to 1,220 per c.c. On 5 of the 9 days the count exceeded the limit as shown in Reprint No. 232, U. S. Public Health Service.

GAS-FORMING BACTERIA.

	On Lactose Bile.			On Lactose Broth.		
	10 c.c. Plates.	1 c.c. Plates.	.1 c.c. Plates.	10 c.c. Plates.	1 c.c. Plates.	.1 c.c. Plates.
Plantings made.....	43	45	42	45	45	45
Gas formers present.....	37	11	2	45	22	5
Gas formers absent.....	6	34	40	0	23	40
Per cent. of samples showing gas formers.....	86	24	4	100	49	11

B. COLI GROUP DETERMINATIONS.

	Lactose Bile.			Lactose Broth.			Lactose Litmus Plate.
	10 c.c.	1 c.c.	.1 c.c.	10 c.c.	1 c.c.	.1 c.c.	
Number of times tests were made for B. Coli Group.....	9	2	0	11	7	1	6
Number positive.....	8	1	0	9	5	1	5
Number negative.....	1	1	0	2	2	0	1
Per cent. of tests positive, B. Coli Group.....	88	50	0	82	71	100	83

CALCULATED PER CENT. OF TIME B. COLI GROUP WAS PRESENT IN VARIOUS QUANTITIES OF WATER.

	Lactose Bile.		Lactose Broth.	
	10 c.c.	1 c.c.	10 c.c.	1 c.c.
Per cent. of time present.....	75	12	82	35

The results derived from this examination show that the B. Coli group is present in 10 c.c. quantities 75 per cent of the time.

Bacterial examinations of the East Chicago Water Supply are made at frequent intervals by A. W. Hedrich, Chemist for the City of East Chicago. In a period from January 12, 1915, to May 30, 1915, bacterial plantings were made on 71 days. During this period gas formers were found in 100 of the 224 one c.c. plantings or approximately 49 per cent of the time. One hundred and seventeen plantings of .1 c.c. showed gas formers on 17 or 10 per cent of the time. During this period the maximum bacterial count was 8,500 per c.c., the minimum was a sterile plate, with an average of 71 per c.c.

The raw water which surrounds the intake of the water system changes in character from time to time. It is impossible to change the chemical treatment in order to bring about proper sterilization. Two and one-half pounds of chlorine per million gallons of water is the amount of chemical used in common practice. This amount of disinfectant frequently results in the water taking on a very objectionable taste, due probably to the effect of the chlorine on the organic matter of the water. If the amount of chemical is increased the taste and odor becomes exceedingly objectionable.

SUMMARY.

The results of the investigation may be summed up as follows:

(1) The southern border of Lake Michigan is badly contaminated by sewage from domestic and manufacturing sources.

(2) The water works suction line draws water from the polluted area.

(3) The water supplied to the citizens of East Chicago is not only contaminated bacterially, showing B. Coli group in 75 per cent of 10 c.c. plantings, but frequently has an objectionable taste and odor. Increased chemical feed will make the water undrinkable on account of odor and taste.

It is believed that the only means by which a satisfactory water can be obtained from this source of supply is by filtration. By means of a suitable filter plant not only would it be easily possible to remove objectionable sewage bacteria, but by such treatment the water would be rendered far purer as far as organic matter caused by sewage and turbidity is concerned.

Acting under Chapter 35, Acts of 1913, since it is believed that the "*public water supply is impure and dangerous to health*," it is recommended that the East Chicago and Indiana Harbor Water Works Company be ordered to install a filtration plant or other device by means of which a pure water, at all times free from objectionable turbidity, taste or odor may be supplied.

It is further recommended that the East Chicago and Indiana Harbor Water Works Company be ordered to prepare and present plans and specifications of such purification plant to the Indiana State Board of Health within sixty days and to construct and put into operation a plant for purification of the water supply within a period of twelve months.

BOONVILLE WATER SUPPLY.

The water supply of the city of Boonville is obtained from two artificial lakes, one referred to as the old reservoir built in 1896, the other known as the new lake built in 1912. The old lake covers about 24 acres and varies in depth from 6 to 13 feet. The supply of water is obtained from a water shed of limited area. The water shed consists entirely of farm lands and several sets of farm buildings are in use upon it. The new lake covers about 28 acres. Its water shed is limited and like the old is all tilled farm land on which are several sets of farm buildings.

A 10-inch line runs from the old lake to the pumping station from which it is pumped to a stand pipe. The new lake delivers water into the old lake as it may be needed, through a 6-inch line. The average daily pumpage is about 160,000 gallons. Seven hundred and eighty-three service pipes supply 80 per cent of the dwellings in the city.

The first analysis on record made in 1907 showed the water at that time to be of good quality. In the last few years a number of analyses have been made with varying results. This data is shown in the table on page 139.

From the analytical figures it will be seen that the organic content of the water has constantly increased, and that this has been accompanied by an increased odor and sediment. At the present time the odor is so marked as to be distinctly offensive. The water is very dark in color and foul in taste and is wholly unsuitable for use as a water supply. Its condition is due to the decomposition of the excessive quantity of organic matter in the form of rank vegetation which is undergoing decomposition on the bottom of the lake. The lake is practically free from currents and the products of decomposition remain in the lower levels from which they are drawn into the mains at the intake. The vegetation is of the usual type noticed around fresh water lakes and ponds. Algae are not present in quantity and grass sedges and water lilies are abundant in different parts of the lake. This condition is true of both lakes and can only be remedied by drawing off the water and rooting out the vegetation.

It is recommended, therefore,

1. That as a temporary expedient the mouth of the intake be raised so that the water may be drawn from the surface instead of from the bottom of the lake. This change in location of the intake pipe will be followed by a decidedly improved water containing more dissolved oxygen and much less of the products of decomposition.

BOONVILLE WATER ANALYSIS.
PARTS IN 100,000

Lab. No.	Date of Collection.	Odor.	Color.	Turbidity.	Sediment.	Ammonia.		Nitrogen, as		Chlorine.	Solids.		Hardness.	Iron.	Remarks.
						Free.	Albuminoid.	Nitrates.	Nitrites.		B. Coll.				
1040	6-29-07	Slight	.....	Very slight	Very slight	.0094	.0244	.0150	.0000	.2	None	6.4	.00		Good water.
4798	7-19-07	None	.....	Slight	Slight	.0010	.0140	.0300	.0000	.5	Gas	4.0	.01		Good water.
8620	3-27-14	Dec.	.....	Slight	Much	.0030	.0160	.0800	.0018	.2	None	1.8	.01		Highly organic and turbid.
8966	6-22-14	Dec.	.....	Slight	Slight	.0060	.0280	.0050	.0001	.8	Present	4.8	.00		
9126	7-20-14	Woody	.....	Slight	None	.0030	.0280	.0000	.0001	.4	Gas	8.0	Trace		Suspicious.
9793	11-17-14	Veg.	.....	None	Slight	.0240	.0320	.0000	.0000	.6	Gas	3.6	.01		Unsatisfactory.
10436	5-16-15	Earthy	.....	None	None	.0010	.0040	.0200	.0004	.6	Gas	2.4	.00		Contaminated.
10437	5-16-15	Musty	.....	None	None	.0020	.0060	.0200	.0004	.4	B. Coll	2.0	.00		Unsatisfactory.

2. The 6-inch line from the new to the old lake must be extended to the line which supplies the pumps, thus furnishing a supply independent of the old lake. When this connection has been made the water should be drawn from the old lake removing thereby dissolved organic matter, and the bed of the lake should then be cleaned of all accumulated debris and vegetation. The shores of the lake should be stripped of muck and vegetation. When this is done the old lake will furnish a potable water of the same good quality it supplied in the first years following its construction.

3. As soon as the old lake has been emptied and cleaned, the new lake should be similarly treated. It is my understanding that when the new lake was made a little of the bed was stripped of soil. This soil contains large quantities of organic matter which together with decaying vegetation, is responsible for its present unsatisfactory condition.

4. Steps should be taken at once to secure a control of the water shed of both lakes in order that farm buildings situated thereon may be condemned and removed. At the present time the water is constantly subject to pollution by surface drainage, and this pollution may frequently be of a most objectionable and dangerous character. No manure of any kind should be spread upon the water shed, and all drains which feed either of the lakes should be permanently closed. This may be done by throwing a series of dams across them and by so contouring the surface of the ground that direct inflow is prevented. A vegetable and truck garden is cultivated on the edge of the old lake and the recent heavy rains have washed great quantities of soil and vegetable mould from this ground and directly into the lake. This land should be acquired by the city and placed in permanent grass. All the houses along Moore street should be connected with the sewers. Privies and vaults should be condemned and stables should be closed.

The recommendations above made must be complied with if Boonville is to enjoy a safe water supply. The present system is adequate for many years. It should furnish a good water, but so long as the lakes receive surface drainage from contaminated farm lands, and so long as they are filled with growing and decaying vegetation the water will neither be safe nor usable. Immediate action by the proper authorities along the lines indicated above is suggested as the only solution to the most important problem before the citizens of Boonville.

PUBLIC WATER SUPPLY OF WOLCOTT, IND.

Until April, 1915, Wolcott, Indiana, was without a public water supply. Prior to that time the town depended on dug and driven wells.

In choosing a source for their public supply Wolcott decided upon water drawn from an abandoned sand pit as being preferable to a highly mineralized water obtainable from wells.

The system, as completed in the spring of 1915, consists of an intake and gravity feed line leading from an abandoned sand pit. This reservoir of water comprises some two acres of surface and is about 25 feet deep. The supply is furnished by springs which feed into the bottom of the pit. The water flows by gravity from the reservoir to the pumping station.

The pumping station is located about one-half mile from the reservoir. The apparatus of this plant is comprised of an automatic, electrically driven pump, one 250,000 gallon unit pressure filter, an electrically driven air compressor and a 14,000 gallon water storage tank.

On account of the short period the plant has been in operation, the number of consumers is quite small. The present pumpage is probably not more than 30,000 gallons per day.

A sample of water taken from the city supply by Dr. J. H. Raven-croft analyzed in the Water Laboratory under Laboratory No. 10,509 showed that the quality of the water was very satisfactory.

MR. EARL MORRIS, Clerk,
Fairmount, Indiana.

July 26, 1915.

DEAR SIR:

On July 2nd, acting as inspector for this department, I made an investigation of the conditions as set forth in your letter of June 17th addressed to Dr. J. N. Hurty, Secretary of the Indiana State Board of Health.

In making the suggestions in the enclosed report I have obtained the advice of Mr. Charles Brossmann, Consulting Engineer, a man who is thoroughly experienced in problems of this sort. My report states some of the facts as to the nuisance and makes suggestions as to possible ways in which the nuisance may be abated. Allow me to state, however, that these are merely suggestions and no attempt should be made to do any construction along the lines proposed until a more complete investigation has been made by a well qualified engineer. Local conditions greatly influence the cost of engineering work. So please bear in mind that all estimates made by me are rough approximations. Exact estimates cannot be made until grade lines and local soil conditions have been determined.

Very truly yours,
J. C. DIGGS,
Water Chemist.

AN INVESTIGATION OF BACK CREEK, FAIRMOUNT, INDIANA.

Back Creek, Fairmount, Indiana, is a small stream which doubtless would entirely dry up during the later summer and early fall months were it not for the fact that it receives the sewage of the town of Fairmount and the industrial wastes from the plant of the T. A. Snyder Preserve Company.

During the season of slight rainfall this stream becomes exceedingly foul and unsanitary. Black septic deposits form at the outfalls of the sewer lines and likewise throughout the course of the stream below these points. This nuisance is much complained of by the farmers below the town and by the citizens of Jonesboro, a town located some five miles below Fairmount. The nuisance is said to be most offensive during the months of August, September and October, a period when the packing plant is emptying liquid tomato wastes into the stream. During this same period, the sanitary sewage would most probably produce the greatest nuisance, so it cannot be stated positively which of the two wastes is the real cause of the complaints. Most likely both are to blame to a certain extent.

The town of Fairmount has a population of approximately 3,000. The city has about 5 miles of storm water sewers, a portion of which are common field drainage tiles. This sewer system empties into Back Creek through ten outfalls distributed throughout its course as it flows through the town. One hundred and twenty toilets from residences and the toilets from the town schools which enroll 550 pupils are connected with this system.

In addition to the above sanitary sewage the stream receives the liquid wastes and washings from the T. A. Snyder Preserve Company's plant, which flows to the stream through an 8-inch sewer.

In dealing with this problem two solutions are possible, viz.:

- (1) Construct a sewer to carry both the town's sewage and the waste from the packing plant to the Mississinewa River, a distance of about five and one-half miles.

- (2) Construct a sewage disposal plant for the treatment of the sanitary sewage and dispose of the packing plant sewage by screening, settling and ponding.

To carry out the first plan, that is, the construction of a sewer to the river, no very great excavation at any one point need be made of the course of Back Creek if followed. The exact size necessary for this sewer cannot be determined until grade line and available fall

are found. Assuming, however, that an 18-inch tile sewer is ample for carrying the proper volume of water an estimate for the entire cost of tile, excavating, placing of tile, and refilling may be placed at \$3,500 per mile. This figure assumes that the tile is to be laid in a trench about 4 feet deep and that the construction would not be out of the ordinary.

A similar 15-inch sewer will cost approximately \$2,640 per mile. The choice between these two sized sewers depends upon the grade at which the tile may be laid. If sufficient fall is obtainable it will of course be advisable to use the smaller sized tile.

The above prices do not include the cost of the overflow arrangements to be built at the outfalls of each of the present sewers. The cost of these however will be relatively small.

The second plan calls for a sewage disposal plant for taking care of the sanitary sewage. In carrying out this plan an intercepting sewer must first be constructed collecting the outfall from all sewers which now empty into the creeks.

A rough estimate for the cost of construction of sewage disposal tanks of the "Septic" or "Imhoff" type would be about \$6,000. This figure does not include the cost of filters which probably would, in addition to the treatment tank, be necessary for the proper purification of the domestic sewage. The type of such filters nor the cost of the same cannot be determined until a careful survey of the local conditions have been made by an engineer.

In the second plan, the packing plant waste would be carried by the sewer to the available land adjoining the creek. Here it would be elevated to a sufficient height for screening and settling and later run into ponds which would be built by banking the earth into ridges. This plan has been used quite successfully at other packing plants. The waste gradually seeps away into the ground. By having a number of such ponds it is possible to allow each one to drain and dry before it is necessary to use it again.

For lifting the waste from the sewer a height of 10 feet, the elevation necessary for screening, settling and ponding, assuming 100,000 gallons of waste per day of 10 hours would require about a two and one-half horse power motor or require two kilowatts per hour.

A PROPOSED WATER SUPPLY FOR THE TOWN OF WAKARUSA, INDIANA.

J. C. Diggs, Water Chemist.

The town of Wakarusa, Elkhart county, Indiana, has a population of approximately 850. No public water supply exists at this place, the citizens depending upon springs and private wells.

A corporation recently organized under the name of The Wakarusa Water Company proposes to construct a public system. A proposed source of supply of water for this system is an artificial reservoir of spring water. This reservoir or pond is located near the center of the town in a low section. It doubtless catches some of the surface water falling on the higher surroundings.

Situated on the higher ground surrounding the pond are many privies and non-water tight vaults. This condition makes it difficult to believe that sewage pollution from this source does not enter the springs which feed the pond. A sample of water was taken from a portion of this reservoir which is walled off from the remainder of the pond by concrete walls by Dr. A. S. Sensenich, Health Officer, July 26th. This sample was examined in the Water Laboratory at Indianapolis with the following results:

“Ammonia Free, .0040. Ammonia Albuminoid, .0030. Chlorine, 1.8. Nitrates, .2500. Nitrites, .0028. Iron .00. Hardness 26.8. Odor Strong vegetable Color none. Turbidity None. Sediment Slight Organic. Gas Formers present. This water is unsatisfactory for drinking and domestic purposes in its present condition.”

The reservoir cannot be recommended as a public supply. The analysis shows that it is doubtless receiving sewage pollution which beyond a doubt would increase when the water level of the pond might be lowered by heavy pumping.

Ground water from wells is obtainable in the town of Wakarusa, but no data was obtained regarding the volume of water which might be obtained from a single well.

The investigation by the Water Department was by no means complete as far as the selection of a public supply was concerned and judging only the one point, i. e., the pond is not a satisfactory supply.

October 18, 1915.

DR. H. E. BARNARD, Chemist,
Indiana State Board of Health,
Indianapolis, Indiana.

DEAR SIR:

I herewith submit the report of a preliminary survey made at the request of the Town Board of Eaton to consider the construction of a sanitary sewerage system in that town.

Respectfully yours,
JOHN C. DIGGS,
Water Chemist and Sanitary Engineer.

A PROPOSED SANITARY SEWERAGE SYSTEM FOR THE TOWN OF EATON, INDIANA

JOHN C. DIGGS.

Eaton, Indiana, is a town with a population of 1,478. At present, the town has no public water system or sewerage system except a short line constructed to remove the surface water from that portion of the town southeast of the L. E. & W. Railway station. The town is located on the north bank of the Mississinawa River. An excellent surface drainage is afforded by the natural slope of the land toward the river.

In the absence of a sanitary sewerage system the town depends for sewage disposal upon the old fashioned type of unsanitary privy. The evil effect of such devices, the danger to public health from the fly nuisance and the possibility of contaminating private water supplies is so obvious that it scarcely need be mentioned. In addition to the privy nuisance many cesspools have been constructed in the town. While the cesspool may eliminate the danger of typhoid infection being carried by flies, yet there is no doubt that the possibility of contaminating a nearby well by a leaking cesspool is far greater than by a privy vault. Since the town depends largely upon a ground supply, it is imperative for the future public health of the citizens that steps be taken to prevent future surface pollution and soil pollution.

An inspection of that portion of the town which it proposes to sewer was made in company with a committee from the Town Board of Trustees and a proposed system of sewers outlined. This system as proposed consisted of two main trunk sewers flowing from the north to the south, one on the alley between Center and Hartford Streets emptying into the present surface drainage sewer at

Indiana Avenue, the other passing through the alley between Long and Elm Streets and emptying near the mouth of the present drainage sewer. A short line serving the three blocks lying between Hartford and Long Streets and south of Harris Streets may drain directly into the present storm sewer or may flow to the proposed line west.

The sewers run over the lines shown on the accompanying map can be placed without the construction of any exceedingly deep trenches. In fact, except in one or two exceptions, trenches 10 feet deep will be of adequate depth.

The system of sewers should be built primarily to take care of the domestic sewage, but until a public water system has been installed, arrangement must be made for using storm water for occasionally flushing out the pipes. This calls for the construction of street inlets or catch basin for receiving the storm water from the curbs. These are especially necessary in the laterals or dead ends to prevent the accumulation of filth. Quite probably the catch basins should be of the type having a water seal to prevent foul smelling gases producing a nuisance.

The accompanying map shows the proposed sewer lines and the size of such sewers at different points suitable for care of domestic sewage and a portion of the storm water. Practically all of these sewers may be constructed on a 2.0 per cent to 2.5 per cent grade. Some of the laterals north of Harris Street and east of Elm Street must use a 1.5 per cent of grade.

A plan for the construction of cisterns at the upper ends of the laterals for the purpose of occasional flushing of the lines during the dry months was discussed. In so far as the public waterworks system will probably be installed within a few years, which would result in the use of standard flush tanks, a plan for construction of cisterns would not be economical. Should it become necessary to flush the lines, it will be cheaper to pump water from a well by use of a gasoline motor driven pump into the dead ends as occasion demands. This will not be necessary except at infrequent intervals during the dry summer months.

The system as shown on the map calls for lines as shown below. A rough approximation of the cost of installing these lines has been calculated. These figures, however, must be considered only as a rough estimate. A final estimate cannot be determined until the local conditions have been examined more thoroughly.

The system consists of:

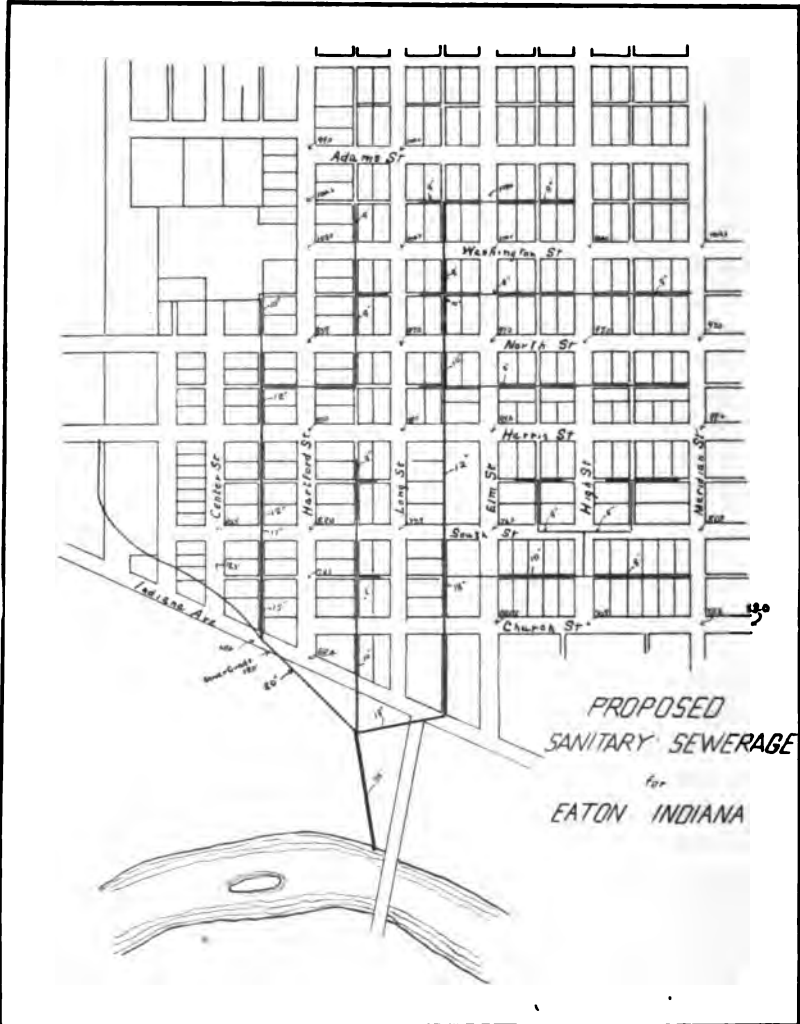
6,600 feet of 8 inch sewer complete at .70 per foot.....	\$4,620.00
1,776 feet of 10 inch sewer complete at .80 per foot.....	1,420.00
1,116 feet of 12 inch sewer complete at .90 per foot.....	1,004.00
384 feet of 15 inch sewer complete at 1.10 per foot.....	422.40
802 feet of 18 inch sewer complete at 1.25 per foot.....	1,002.50
384 feet of 30 inch sewer complete at 2.00 per foot.....	768.00
<hr/> 11,462	<hr/> \$9,238.10

The necessary number and location of street inlets and manholes cannot well be determined until later. The cost of these will not add greatly to the above figures.

The above figures should decide for the citizens of Eaton whether or not they install a sanitary sewer system. While the immediate outlay may seem large, yet it is small when the effect of such construction on the future of the city is considered. A single typhoid epidemic frequently costs a town the size of Eaton in sickness, doctors bills and deaths far more than the figured cost of the proposed system, and at the present time conditions are most ideal for the spread of this disease should it once be introduced into the town.

In addition to health benefits, the effect upon real estate values should be considered. Property which has available sewer connections will immediately rise in value and property which is located away from the section of many outhouses and privy vaults, will be far more desirable than that which is surrounded by such nuisances.

In view of what has happened in other towns by poor design, improper grade lines of sewer systems, it is advisable that only an efficient sanitary engineer, who has had considerable experience in sewerage work, should be employed to establish the lines, grades and write specifications.



THE PUBLIC WATER SUPPLY AT PAOLI, INDIANA.

JOHN C. DIGGS AND A. R. TUCKER.

Until recently the supply of water used for drinking purposes in the town of Paoli was obtained from deep wells. Public wells to the number of fifteen are located in various parts of the town. These wells are all approximately 100 feet deep and supply a very satisfactory water. A table showing the sanitary analyses of these wells is appended.

In the year 1895 a private company built a public water system in Paoli which was afterward sold to the town. The source of the supply was Lick Creek, an adequate supply, but one, of course, which was exposed to surface pollution from barn yards and fields. This supply also became quite muddy, following heavy rains. The supply is pumped to a reservoir located at the top of a hill and from the reservoir it flows by gravity to the city mains.

On account of the unsatisfactory supply obtained from Lick Creek, attempts were made to obtain an additional supply from other sources, but all resulted in failures.

In the spring of 1915 the town decided to install a pressure filter plant to be furnished by the Norwood Engineering Company. This plant, as now constructed, comprises an intake, a pumping station and filter plant, a storage reservoir and a distribution system.

The supply is obtained from Lick Creek through an intake and goes directly to the pumps which are located in the building with the filters on the bank of the creek.

Two pumps are provided, one built by the American Steam Pump Company, with a capacity of 400 gallons per minute when operating at the rate of 40 strokes per minute, the other a Dean pump of about 10,000 gallons capacity per hour. In practice the American pump is used practically all the time, the Dean being kept in repair for emergency. The filter plant consists of one 8 by 20 steel coagulating tank, three 8-foot pressure filters, an alum feeding device and a hypo feeding device. The alum solution is fed into the suction line from the intake. The water passes through a coagulating tank and goes to the top of the filters.

Filters of this type are designed to operate at the rate of 125 to 175 million gallons per acre of sand surface. With the water as turbid as this supply becomes during periods of rains, operation at a rate faster than 125 million gallons cannot be expected. When oper-

ating at the rate of 125 million gallons per acre of sand surface, the three 8-foot filters will produce 18,000 gallons of water per hour or 300 gallons per minute.

To pump 300 gallons per minute the pump must operate at the rate of 30 strokes per minute. The operator of the plant has found, however, that during the time of high turbidity, if the pump is run faster than 20 strokes per minute, the water is not filtered satisfactorily. This would indicate that either the alum feed is not properly adjusted, or that the filters will not take care of more than 12,000 gallons of water per hour during periods of the year when the raw water is muddy. It is certain that the present equipment cannot take care of 30,000 gallons of water per hour as guaranteed in the specifications of the construction company.

At the time of the inspection September, 1915, the creek water was unusually clear. At this time the pump was operated at various speeds and samples of the effluent taken for each rate. A satisfactory effluent was produced at a speed of 38 revolutions or when pumping at the rate of approximately 23,000 gallons per hour. This is at the rate of 160 million per acre of sand surface. Such a rate of pumping is not possible except during clear water periods.

The reservoir located at the top of a hill is 52 by 80 by $5\frac{1}{2}$ feet with a capacity of 170,000 gallons. The reservoir is well protected from stock by a tight wire fence.

The town of Paoli supplies water to two unusually large consumers, the Monon Railroad and a local canning factory. The railway company uses 30 to 40 thousand gallons daily and the canning factory about 9,000 gallons hourly when running. The town receives only 4 cents per thousand gallons from the railway company and 3 cents per thousand gallons from the packing plant.

Upon referring to the rates of other Indiana cities which purify water by filtration, it is apparent that the town of Paoli cannot sell filtered water for less than 10 to 12 cents per thousand gallons.

Chemical and bacterial examinations of the Paoli supply show it to be a potable water and one which is free from objectionable turbidity.

PAOLI PUBLIC WELLS.

Date.	Location.	Chemical Examination. Parts per 100,000.				Bacterial Examination.				Remarks.
		Chlorine.	Alkalinity.	Nitrogen as		Bacteria per c.c. No. 1.	Bacteria per c.c. No. 2.	B. Coll. No. 1.	B. Coll. No. 2.	
				Nitrites.	Nitrates.					
9-15-15	Court House.....	.60	28.8	.0000	.0000	6	79	None.....	None.....	Good.
9-15-15	George Stout.....	.60	28.4	.0000	.0000	7	4	None.....	None.....	Good.
9-15-15	Braxtan.....	1.60	27.6	.0001	.0000	7	3	None.....	None.....	Good.
9-15-15	Rock Quarry.....	.60	29.2	.0000	.0000	12	27	None.....	None.....	Good.
9-15-15	Maxedan.....	.60	26.4	.0000	.0000	9	7	None.....	None.....	Good.
9-15-15	School House.....	1.00	28.8	.0000	.0000	8	12	None.....	None.....	Good.
9-15-15	Nathan Wells.....	2.80	23.6	.0000	.0000	2	5	None.....	None.....	Good.
9-15-15	Frank Wall.....	1.40	28.6	.0004	.0000	4	7	None.....	None.....	Good.
9-15-15	Joe Hickman.....	2.20	21.6	.0000	.0200	2	3	None.....	None.....	Good.
9-15-15	Chas. Jones.....	1.30	26.8	.0000	.0000	18	32	None.....	None.....	Good.
9-15-15	Montgomery.....	4.80	26.4	.0000	.0000	4	7	None.....	None.....	Good.
9-15-15	Beams.....	1.20	30.6	.0000	.0000	4	5	None.....	None.....	Good.
9-15-15	Wolffington.....	.80	30.4	.0000	.0000	30	18	None.....	None.....	Good.
9-15-15	Boyd.....	.60	28.0	.0000	.0200	8	35	None.....	None.....	Good.
9-15-15	Friends' Church.....	2.0	33.2	.0003	.0200	4	6	None.....	None.....	Good.

CITY SUPPLY—PAOLI.

Date.	Location.	Chemical Examination. Parts per 100,000.			Bacterial Examination.								
		Chlorine.	Alkalinity.	Nitrogen as		Bacteria No. 1.	Bacteria per c.c. No. 2.	Bacteria per c.c. No. 3.	Bacteria per c.c. No. 4.	B. Coll No. 1.	B. Coll No. 2.	B. Coll No. 3.	B. Coll No. 4.
				Nitrites.	Nitrates.								
9-15-15	Reservoir	40	16.8	.0003	.0000	10	9-16-15 18	9-18-15 35	9-20-15 26	None	None	None	None
9-15-15	Tap at canning fac- tory	48	16.0	.0003	.0000	35	90	60	45	None	None	None	None
9-15-15	Raw water.					400 S	500 S	300 S	208	Gas	Gas	Gas	Gas
9-15-15	Filtered					14	3	12	19	None	None	None	None
9-17-15	Filtered, pumping 30 strokes a minute.					14				None			
9-17-15	Filtered, pumping 34 strokes a minute.					40				None			
9-17-15	Filtered, pumping 38 strokes a minute.					45				None			
9-17-15	Filtered, pumping 38 strokes a minute.					60				None			

THE PUBLIC WATER SUPPLY OF THE TOWN OF FRENCH
LICK, INDIANA.

JOHN C. DIGGS AND ALBERT R. TUCKER.

The Public Water Supply of French Lick, Indiana, is taken from two principal sources; i.e., public springs and French Lick Creek.

The public springs supply the drinking water for approximately 500 people. One of these, known as the Wells Hotel Spring, is located at the foot of a hill on Wells Avenue. The other spring, known as the Haggett Spring, is located some distance above on another side of the same hill. A sanitary survey of the slope above the outlet of these springs was made and surroundings were found to be unfavorable to the production of a satisfactory water supply. The slope included the drainage from several back yards, in some of which were located privy vaults.

Chemical analyses and bacterial examinations of samples showed the water of both springs to be polluted and unfit for drinking and domestic purposes.

The public water system which furnishes a supply for the town of French Lick is owned and operated by the French Lick Springs Company, a private company, which has a contract to furnish water for fire protection and sprinkling purposes only. The supply is taken from French Lick Creek, which is fed by springs and the run-off from the surrounding hills. A dam has been built across this creek so as to form a small storage reservoir from which the water is passed by gravity into two brick cisterns. From these cisterns the water is lifted by an electrically driven Gould pump which is operated at the rate of 12,500 gallons per hour. The water is carried to the top of a hill on which a brick and concrete storage reservoir has been constructed. From the reservoir it flows by gravity into the city mains. During the time of highly muddy water, alum is added to the water as it goes to the reservoir. This throws down a considerable part of the turbidity and produces during the greater part of the year a fairly clear water.

As French Lick Creek is located in a valley surrounded by steep hills, it receives all the drainage from pasture lands and barn yards in this section. The purification treatment now employed is entirely unsatisfactory as a means of producing a potable water supply and this city supply at present cannot be considered safe as a drinking water.

The need of a satisfactory public supply is all the more imperative in French Lick because of the very unfavorable geological conditions which make difficult the obtaining of a dependable underground water supply. A surface water, such as French Lick Creek supplies, is not satisfactory for drinking purposes, but by the installation of a small filter plant, such as already has been constructed at West Baden and Paoli, a good water may be obtained.

In so far, however, as the West Baden public water system is joined to the mains of the French Lick system, it undoubtedly is true that if the two systems were merged, one filter plant could supply water to the two towns more economically than could be done by two separate plants, and it is highly advisable that the citizens of French Lick take active steps to secure a potable water supply.

CHEMICAL AND BACTERIAL EXAMINATION OF THE PUBLIC WATER SUPPLY OF FRENCH LICK, INDIANA.

Source.	Chemical Analysis* Parts per 100,000.				Bacterial Examination.					
	Chlorine.	Alkalinity.	Nitrogen as		Bacteria per c.c.			B. Coli Presumptive.		
			Nitrites.	Nitrates.	1st Sample.	2nd Sample.	3rd Sample.	1st Sample.	2nd Sample.	3rd Sample.
Haggett Spring.....	1.4	12.8	.0000	.0000	160	400	.....	Gas formers	Gas formers	None
Wells Hotel Spring.....	1.4	21.6	.0001	.0200	120	220	.....	Gas formers	Gas formers	None
City tap—Erwin Hotel....	3.6	16.0	.0000	.0200	50	90	19	Gas formers	Gas formers	None
Raw water—French Lick Creek.....	1.2	15.8	.0010	.0000	200	110	380	Gas formers	Gas formers	Gas form

*Chemical analyses were made on September 16, 1915. Bacterial examinations were made on samples collected September 16th and two following days.

THE PUBLIC WATER SUPPLY OF THE TOWN OF WEST BADEN, INDIANA.

JOHN C. DIGGS AND ALBERT R. TUCKER. .

A public water system was installed in West Baden about 1895. At that time the supply was taken from Lost River, pumped into a natural earth reservoir at the top of the hill behind the West Baden Springs Hotel and allowed to flow by gravity into the city mains. Some years later pressure filters were installed between the reservoir and the city mains. An inspection of this plant in May, 1912, showed that there was considerable irregularity in the feeding of coagulant and that the reservoir was in very bad condition, no precaution being taken to prevent surface pollution.

The plant described above now furnishes water for the West Baden Springs Company hotel only. At the time of the present inspection September, 1915, it was in practically the same condition as described in the 1912 report. The reservoir at the top of the hill may very fittingly be called a "frog pond." The water which flows from it is in worse condition than the Lost River water which is pumped into it. The recommendations made in 1912 continue to apply to this plant and not until such changes are made can the plant be expected to produce a satisfactory water supply.

Early in 1914, the West Baden and French Lick Water Supply Company constructed a plant for supplying water to the public of West Baden. The supply furnished by this company replaced that previously supplied from the hotel water plant.

When inspected in September, 1915, this newly built plant consisted of a pumping station and pressure filter plant which forced the water to a concrete reservoir located at the top of the hill. The water flows by gravity into the city mains.

The pumping plant consists of one electrically driven pump of 400 gallons per minute capacity. In the same building are housed two 10 by 12 pressure filters. The reservoir is of concrete with concrete roof. The capacity is one-half million gallons. The company has about 162 consumers who use 120,000 gallons of water per day.

A large number of samples were taken from the public supply, from the raw water, filtered water and city taps. Without a single exception, gas forming organisms were found in every sample. In some cases, *B. Coli* was indicated.

should be installed immediately. A water supply surface which continues, after filtration, to show forming organisms is liable at any time to contain sewage organisms.

On about October 15, 1915, samples sent from City Plant to the Water Laboratory showed the content.

Source.	Bacteria per c.c.
Raw Water.....	4,000
Filter No. 1.....	2,400
Filter No. 2.....	3,600
Reservoir.....	3,000
Tap No. 1.....	2,000
Tap No. 2.....	1,800

WATER SUPPLY FURNISHED THE TOWN OF WEST BADEN AND WEST BADEN SPRINGS HOTEL.

Source.	Chemical Analyses. Parts per 100,000.				Bacterial Examination.							
	Chlorien.	Alkalinity.	Nitrogen as		Bacteria per c. c.				B. Coll Presumptive.			
			Nitrites.	Nitrates.	No. 1.	No. 2.	No. 3.	No. 4.	No. 1.	No. 2.	No. 3.	No. 4.
Raw water—Lost River	.80	20.8	.0005	.0300	110	210	460	500	Gas formers None	Gas formers None	Gas formers	Gas formers
Reservoir—City plant.					75	80						
City tap.....	.80	20.6	.0005	.0300	11	60	120	44	Gas formers	Gas formers	Gas formers	Gas formers
City plant—Filter No. 1					54	40	80	110	Gas formers	Gas formers		
City plant—Filter No. 2					58	65	60	70	Gas formers	Gas formers		
Hotel reservoir.....	.80	22.4	.0050	.0000	240	210	480	250	Gas formers	Gas formers	Gas formers	Gas formers
Filtered—Hotel tap....	.80	22.4	.0008	.0000	240	40	120	110	Gas formers	Gas formers None	Gas formers	Gas formers

Samples taken on September 16 to 21, 1915.

THE
SANITARY SURVEYS
OF
LOGANSPORT
AND
NOBLESVILLE,
INDIANA.

JOHN C. DIGGS, Water Chemist and Engineer.

GEORGE CULLEN THOMAS, In Charge of Logansport Survey.

ALBERT R. TUCKER, In Charge of Noblesville Survey.



THE SANITARY SURVEYS NOBLESVILLE

Complete sanitary surveys of cities were successful in pointing out conditions in communities that two such investigators found in 1915.

Logansport, which has had the reputation of being a hot-bed of typhoid fever for study. This city by the recent construction of a water filtration plant, and by the enactment of laws governing water connections or the construction of water mains, ever, made great strides toward the improvement of its health. It was well known that there was a great deal of disease in this city, many of which by previous analysis had been traced to the cause of ill health. It was thought by the Board of Health of Logansport that it would be better to go to the expense of investigating the water supplied by all wells in order that the cause of the disease be ferreted out and eliminated as a source of infection.

Noblesville, unlike Logansport, is a healthy city. The city government, however, thought that conditions might be improved if a thorough investigation of the private water supplies and all devices within the city limits.

Each of these cities, in asking the State to conduct such work, agreed to pay a portion of the cost of the survey.

The city of Logansport provided the expenses of the corps of men conducting the survey incident to the collection of the water samples. The floating laboratory belonging to the State Board of Health was used as headquarters for the material examinations.

GENERAL OUTLINE OF METHODS OF FIELD WORK

The field work of the surveys consisted in the collection of samples of water from every private water supply. Regarding each supply, the means of

of each household and the health conditions of each family where a private water supply existed. The above data which was collected on a sanitary survey card consisted of the name and address of the resident, owner of the property, source of water supply, means of sewage disposal and the sanitary condition and appearance of the back yard. On the reverse side was placed the sanitary analysis of the sample of water.

On a second card a sketch was made of the block in which the residence was located. This card shows the location of the house in reference to others in the same block, also the location of wells, cesspools and privies.

SANITARY INSPECTIONS.

In the sanitary inspections which were made at every residence, the point of most vital concern was to determine the relation between the sewage and garbage wastes and the water supply.

Such matters as the disposal of dish waters and garbage and the general cleanliness of the back yard, directly or indirectly affect, not only the health of the family living in the home, but also that of the neighbors. Exclusive of the water supply, flies are probably the most active agents for transmitting typhoid fever and other intestinal diseases—especially summer complaint among children. A pile of garbage or manure, or a back yard made filthy by dish water and scraps from the kitchen, affords an excellent breeding place for flies which later carry filth and disease germs from privy to dining room or from the sick room to the baby's cradle.

An arbitrary classification of privies was made by the inspection—following the general method used by the U. S. Public Health Service in its typhoid investigations. The classification is as follows:

Class A. A privy with water-tight vault, thoroughly closed, and screened against flies.

Class B. Water-tight vault and closed, openings not screened.

Class C. Planked vault, closed rear but not water-tight.

Class D. No vault closed against chickens and small animals.

Class E. No vault, rear open, accessible to animals.

Obviously, it is difficult to classify some outhouses. It is often impossible to determine whether or not the vault had a water-tight bottom. As a matter of fact, most of the vaults were not water-tight, the owner depending on the absorption by the soil to remove at least the liquid waste.

ing, with the rear of the building entirely rotted away or broken through. Such an outhouse was placed in Class "E" for the obvious reason that it is as great a menace to public health as if constructed without a vault. Inspections were made each morning and examinations of samples carried on in the laboratories during the remainder of the day.

LABORATORY EXAMINATION OF WATER SUPPLIES.

In the chemical and bacterial laboratories used in connection with these surveys examinations were made each afternoon of samples from wells and other water supplies collected the preceding morning. The chemical factors determined were nitrites, nitrates, chlorine and alkalinity. Total bacterial counts on agar at 37° C. and presumptive B. Coli tests on 1 c.c. portions were made. Color, odor, turbidity and sediment were also noted. From time to time reports of the findings of the contaminated water supplies and unsanitary premises were made to the local Boards of Health. In cases of unsanitary conditions, the City Health Offices ordered the necessary improvements.

The field work at the city of Logansport was carried on under the direction of Mr. George Cullen Thomas and Mr. Arthur W. Lockhart, and that of Noblesville under the direction of Mr. Albert R. Tucker. Such a thorough survey would not have been possible except for the uncompensated assistance rendered by students taking the scientific courses in the colleges and universities of the State. The students making up this able corps were W. G. Leamon of DePauw University, Glen Edgington of Purdue University and Edwin Robinson and Hilton U. Brown, Jr., of Butler College. Too much credit cannot be given to the corps of men who carried on the field and laboratory work. Many of them were willing to serve without pay in order that they might benefit by the experience of actual field work in conducting sanitary studies.

THE LOGANSPORT SURVEY.

Logansport, the county seat of Cass county, has a population of approximately 20,000. The city is situated in the valley bottom at the junction of the Wabash and Eel Rivers at an altitude of about 600 feet above the sea level. The city is the outgrowth of one of the old trading posts of the State. Situated as it is on the Wabash River, it was in early days easily accessible to the Indiana traders who trav-

elled up and down the broad thoroughfare of the river. In later years, the construction of the old Erie Canal which followed the course of the Wabash River established it as a commercial center. Today it is important because of its railroad facilities. The Pennsylvania shops make it a center for railroad men who make up a considerable portion of the population.

ACKNOWLEDGEMENTS.

In compiling the report of the work of this survey all available references to any matters which affect the sanitary condition of the region have been utilized. The publications of the State Geological and the U. S. Geological Survey have been used whenever they contained material of value. Past reports of the State Board of Health have thrown valuable light on many of the sanitary problems.

The field work was facilitated by the co-operation of Hon. Mayor Guthrie, Dr. Clark Rogers, former secretary of the City Board of Health, Dr. R. E. Troutman, the present secretary, Mr. M. Chas. Miller, Sanitary Officer, Mr. Harry Klinck, Superintendent of the Water Works and Mr. Earl Guthrie, City Chemist.

PHYSIOGRAPHY AND GEOLOGY OF CASS COUNTY.

Cass county contains two important river valleys. The valley of the Wabash crosses the county from east to west and ranges in width from 100 feet to a mile. The surface of the stream lies from 100 to 150 feet below the level of the uplands on either side of the valley. The Eel River valley is slightly less prominent than that of the Wabash. Both streams flow through a glaciated area. In some places however, channels have been cut through the mantle allowing the stream to flow over the underlying limestone. At such points, the banks of the stream are cliff-like and the valleys narrow.

Alluvial sands which have been laid down by the water occur in the valleys of the streams. In some cases such deposits are found on the higher bench lands. Such formations usually furnish a good water supply. By reason of its close connection with the rivers, a supply from this source is not usually affected by drought. Water obtained from these sand deposits is softer than that obtained in the till or morainic formations, for the reason that through washing and sorting much of the soluble mineral salts has been removed from the material. Driven wells are cheaply installed in these bot-

tom lands and where protected from local surface contamination few fail to yield a satisfactory supply.

Moraines occur on the uplands between the two rivers. Wells may be driven in this formation up to 100 feet without reaching rock. The water from this source is satisfactory, but the water table lies at a considerable distance below the surface—some times as low as 50 to 70 feet below the ground level.

The till formation is found at the surface and beneath the moraines. It is of a clayey character and yields water very sparingly except where it is stratified with gravel layers. The character of the water is hard.

The youngest consolidated formation found in Cass county is the Devonian limestone. This material occurs in the south central portion of the county. In the northern part of the county the Silurian (Niagara) limestone is found in the stream beds or just beneath the glacial material. Good yields of water are obtained from wells which are sunk a few feet in the limestone formations. The limestones are intersected by open joints and bedding planes which afford a free passage for water. Such crevices are numerous near the upper surface.

THE PUBLIC WATER SUPPLY AT LOGANSPORT.

The Logansport Water Works system was built in the year 1876 and since that date has drawn its supply from Eel River, a tributary of the Wabash River.

EEL RIVER.

Eel River has its source in the lake district of southern Noble, northern Whitley and northwestern Allen counties. It flows in a southwesterly direction across Whitely, Wabash, Miami, and Cass counties and empties into the Wabash River at Logansport. Its length is approximately 110 miles. The drainage basin of Eel River is long and narrow. The tributaries of this stream are short, many of them rising from the small lakes of the head waters. These lakes, which are very largely fed by springs, assist greatly in making the stream discharge regular. The drainage area of Eel River is 7 square miles.

A gage was established at Logansport by the Indiana State Department of Geology during the year of 1910. Readings from the gage and supplementary current readings show the minimum

for the period from July, 1910, to July, 1911, to be 125 second feet or 80 million gallons per day.

No large city above Logansport sewers into Eel River, but the stream receives considerable pollution from several minor sources. Examination of samples from this river shows that the stream is far too badly contaminated to permit the use in the raw state as a public supply. This fact is further evidenced by the extremely high typhoid rate which has existed in the city of Logansport for some past years.

Treatment of the city supply by means of "Hypo" has been carried on part of the time during the last two years with some success. An amount of the chemical sufficient to render the water free from dangerous bacteria usually resulted in an objectionable taste in the water.

THE PURIFICATION PLANT.

In November, 1912, a city election resulted in the decision to construct a purification plant, and as the result of bids submitted in May, 1913, a plant of the gravity filter type was decided upon.

This purification plant is comprised of an intake, low duty raw water pumping plant, a coagulating and sedimentation basin, eight gravity filters, a filter house containing a laboratory and apparatus for the storage and preparation of chemicals in solution and a clear water storage basin located beneath the filters.

THE INTAKE.

Under normal conditions the raw water will be pumped directly from the "stilling" basin, which is located in the race, through which flows the water used in the turbines, which operate the pumps furnishing the city pressure. This basin is constructed of concrete and timber and has a capacity of practically one-half million gallons. A second intake may draw water from above the dam. A 36-inch cast iron pipe, controlled at both ends by sluice gates may bring the supply to the raw water pumps in case the race is closed for repairs or other reasons. A 24-inch emergency intake extends to the river in order that water may be taken direct should an accident prevent the use of the filter plant.

The raw water pumping station consists of three electrically driven, Worthington centrifugal pumps, each of 4,000,000 gallons daily capacity, coagulant feeding device and float controls for automatically regulating the work of the pumps.

THE SEDIMENTATION BASIN.

The sedimentation basin, built of reinforced concrete, is 125 feet long and of 52 feet average width and 12.5 feet deep. It has a "slab" concrete roof and stilling walls located at either end. The capacity is approximately 600,000 gallons. This size permits, with complete displacement, a settling period of 1.8 hours and a lineal flow of 1.1 feet per minute when the plant is working at the 8,000,000 gallons per day rate.

THE FILTERS.

The filters, each 22½ feet by 16 feet, are arranged in two rows of four each on the opposite sides of the operating room and pipe gallery. The construction, save the strainer system and wash water removal troughs, is entirely of reinforced concrete.

The water is supplied to the filters by sheet metal troughs and in filtering passes through 28 inches of sand and 19 inches of gravel. The strainer system consists of cast iron manifolds, into which are screwed 1½ inches galvanized iron pipe with ¼-inch holes.

The sand beds are washed by an upward flow of water forced back through the strainer system. Two electrically driven, Worthington centrifugal pumps each of which supplies water so as to produce an upward flow in the filters of 18 inches per minute. The filters are manually operated and each rated at 1,000,000 gallons per 24 hours. Rate control regulators are provided to prevent excessive flow when filters are first started. Down draft tubes with water seal are provided to increase the downward pressure.

THE CLEAR WATER WELL.

The clear water system is directly under the filters and pipe gallery. Its capacity is 260,000 gallons.



CHEMICAL SOLUTION AND FEEDING DEVICES.

Sulphate of Alumina is used as a coagulant. Two tanks 7x7x6 feet are provided for putting the chemical into the solution. The alum solution is carried by a 2-inch lead pipe to the raw water pump house where it is applied by an automatic regulating device, the amount of solution added varying according to the height of water on a weir.

"Hypochlorite" is applied at two points; as the water leaves the sedimentation basin and as the filtered water goes into the suction line. This double chemical treatment permits the addition of a comparatively large amount of "Hypo" to the settled water, any objectionable taste and odor being removed by the filters. Treatment at this point also gives a long contact period before the water is pumped into the mains. Treatment at the suction will probably not be necessary during a large part of the year.

THE PUMPING PLANT.

Two 24-inch cast iron suctions lead from the clear well to the pumping plant. This plant consists of four pumps as follows, one Allis-Chalmers Cross Compound, condensing, steam pump with a capacity of 6,000,000 gallons per 24 hours, one Fairbanks-Morse tandem, compound, condensing, steam pump, with a capacity of 3,000,000 gallons per 24 hours, one Laidlow-Dunn-Gordon water power pump with a capacity of 3,000,000 gallons and two Holly combination steam and water pumps of 1,500,000 gallons each.

OPERATION OF THE PURIFICATION PLANT.

The Logansport filter plant was put in operation on March 25, 1915. At the request of Mayor Guthrie and Dr. Clark Rogers, Secretary of the City Board of Health, an inspection of this plant was made during the following April. The results of this inspection, (found on other pages of the 1915 Annual Report of the Indiana State Board of Health) showed the plant to be filtering the water in a satisfactory manner. During this month the raw water was unusually clear, less than .7 grains of aluminum sulphate being sufficient to produce a good "floc." In addition to filtration, 10 pounds of "Hypo" were used to treat the water.

Later in the summer however, on account of the unusually wet

season, river conditions changed, resulting in the water becoming very turbid. The coagulating basin was allowed to become filled with mud resulting in a very much decreased settling space. At times it became necessary to use as high as 9 grains of aluminum sulphate per gallon to produce a filterable water. It also became necessary to add as high as 25 pounds of "Hypo" per million gallons of water. Such operation as this is not only extremely expensive, but produces a filtered water which is objectionable on account of the taste of the chemicals.

No plant which requires this large amount of coagulant can be said to be constructed or operated economically. The amount of alum used in this plant can and should be reduced by the enlargement of the coagulating basin or by the construction of baffles which will bring about greater agitation of the treated water. Further, no filtered water should require as much as 25 pounds of "Hypo" to produce a water free from B. Coli or other objectionable organisms.

The average daily consumption of water in the city of Logansport is approximately 5.5 million gallons. The daily per capita consumption approaches 300 gallons. This is far in excess of what is actually used, fully two-thirds of this amount being wasted. The cost of operation of the Logansport water system, as far as pumping and chemical treatment is concerned, will be proportionate to the amount of water supplied. A concerted effort should be made to cut down the great wastage by consumers.

A recommendation was made in an earlier report from this office that the city of Logansport should procure the services of an experienced water filtration engineer, one who is thoroughly familiar with the theory and operation of a filtration plant. Such an engineer will be able to give his entire time to the plant and to reduce greatly the cost of chemicals used in the purification operations.

THE PRIVATE WATER SUPPLY OF LOGANSFORT, INDIANA.

Within the city limits of Logansport there are two thousand two hundred and ten wells and approximately this number of families depend for at least a portion of the year upon this source as their supply of drinking water. Several wells of the city, especially in the down town district, supply half a dozen or more families. Approximately 60 per cent of the private water supplies are from wells ranging from 40 to 140 feet in depth. In some cases such wells pass through the drift, obtaining water from the upper layer limestone formation. Some of them however, reach only +

gravel layers of the unconsolidated formations. Generally speaking, the limestone water cannot be said to be a more potable supply than that from the gravel. The limestone is extensively fissured and in some portions of the city strong evidence exists that streams of polluted water follow the stone outcrops to the deeper veins of water; where such conditions were found to exist, the supply of water was invariably in worse condition than it was where purification was produced by filtration through gravel beds.

The dug wells which constituted approximately 40 per cent of the private supplies varied in depth from 20 to 40 feet. The condition of the water from these wells is most strongly affected by the conditions at the surface of the ground. In unsewered regions, with many privy vaults in the vicinity, the shallow wells were for the most part contaminated. Many such wells are also affected by throwing dish waters and garbage in the back yards.

Of the 2,210 wells of the city, 678 showed such evidence of pollution that they were deemed unpotable. One thousand five hundred and thirty-two wells were passed as satisfactory. Many of these wells in their bacterial and chemical contents showed the effect of civilization with the resultant pollution of soil, in the region from which the water supply was drawn, but the contamination was not excessive enough to justify the condemnation of the well. Table No. 3 appended to this report shows the condition of all private water supplies examined.

Map No. 1 shows the geographic distribution and the condition of each well. Upon comparing the location of polluted wells with the location of the numerous unsanitary privy vaults shown on Map No. 2, it is quite easy to see the source of this pollution. No shallow well can long exist in an uncontaminated condition when surrounded on all sides by privy vaults, which are constantly leaking their filth into the ground.

SANITARY INSPECTIONS.

The city of Logansport has a very active Board of Health which has kept certain features of sanitation above the standard of the State. During 1914 a city ordinance was passed which ordered that no privy should be constructed or used unless it was provided with a water-tight vault. As a result of the passage of this ordinance a very complete inspection of the outhouses of the city was made during the spring of 1915. Following this inspection many clean-up orders

were issued which resulted in a decided improvement in the sanitary condition of the city.

The inspections by the Water Department of the State Board of Health found 2,486 privies of which 164 were condemned because of unsanitary conditions.

The city government has not compelled a literal enforcement of its sanitary ordinance requiring the construction of a water-tight vault in sections where it seemed probable that in the near future a sanitary sewer line would be installed which would take care of all sewage waste. The general cleanliness of most of the back yards of the city was very commendable and far above the average of the majority of the cities of the State.

On Map 2 are shown the geographic location and character of the privies of the city. Aside from showing the deplorable need of more extended sanitary sewer lines this map points out the very close relation existing between the polluted well area and the bad privy area.

THE SEWERAGE SYSTEM

Map No. 2 which shows something of the sanitary condition of the city, also shows the sanitary sewer lines which were in use at the time the inspections were made.

Map No. 3 shows the entire sanitary sewer system of the city including the south side sewer which was constructed during the summer of 1915 and but little used during that year. On this map is also shown the proposed system which will accommodate that section of the city, south of Broadway. With the construction of this sewer the city drainage will be taken care of in a very satisfactory manner, approximately 35 miles of sanitary sewers being in use.

DISPOSAL OF CITY WASTES.

Garbage: A city ordinance requires that each householder must provide a tight covered non-leaking garbage can for the collection of wastes produced in the kitchens of residences, hotels and restaurants. The city contracts for a three years' period with a private corporation to make collections and disposal of the garbage. This contract for which the company receives \$9,390 for the three year period for collections three times a week for the residence districts and per day for the down town districts. The garbage is hauled country where it is fed to stock, burned or buried.

A separate clause of this ordinance requires that vege

animal wastes from meat markets, groceries, shall be hauled to the city dump at the expense of the butcher or grocer. The city appropriates \$400 per year to pay for the burning of such wastes.

Rubbish and Dead Animals: An appropriation of \$4,500 for a three year period provides for the collection, removal and disposal of tin cans and dead animals. The dead animals are hauled to the country where they are skinned. The carcasses are buried.

Street Cleanings: All improved streets of the city are kept clean by washing with a street flusher. Three wagons, under the direction of the City Street Cleaning Department, are used for the collection of such cleanings. All of the improved streets are thoroughly cleaned twice each year and all alleys are cleaned each spring or early summer.

The City Street Department collects ashes from the residence districts once each year.

Night soil and manure are removed at private expense. These wastes are hauled to the country where they are buried or used as fertilizer.

The city of Logansport has a most excellent ordinance regulating connection with sanitary sewers. Where sewers are not available the ordinance provides that the property owners shall provide a water-tight privy vault or cesspool.

Two other ordinances, one calling for covered manure boxes, the other relating to the cutting of weeds during the summer seasons are of great sanitary importance.

TYPHOID FEVER IN LOGANSPORT.

A study of the history of typhoid fever in Logansport discloses the fact that the disease has been prevalent to a very high degree for several years, existing in both the epidemic and endemic forms. In order to present the data in a more graphic manner, the following tables of cases and deaths are tabulated.

These figures show three distinct and very severe epidemics, one occurring from March to June, 1912, one November to April, 1913, and the present epidemic which had its onset early in October, 1914. It is quite noticeable that these three epidemics have occurred at a time of the year when flies, one of the common carriers of the infection, must be excluded as a possible cause. It is also to be noticed that these outbreaks occurred at the seasons when the epidemics are usually caused as the result of a contaminated water supply.

In February, 1912, an ice gorge was formed in the Wabash River

TABLE NO. 1.—TYPHOID FEVER IN LOGANSPOUT.
CASES.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1910.	1	4	4	0	0	0	3	0	13	6	0	0	31
1911.	1	3	3	2	0	0	0	0	0	0	0	0	9
1912.	6	0	22	37	13	6	2	2	1	4	4	0	97
1913.	5	0	1	2	0	0	2	2	5	5	23	10	86
1914.	23	2	34	3	8	6	0	2	6	34	41	16	203
1915.	3	1	0	0	1	1	0	7	2	2	0	0	17

DEATHS.

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a few miles below Logansport. This caused the water to "back up" in the city forcing the sewage up through the manholes of the sewerage system and flooding large portions of the city with polluted water. Many dug wells were filled with the "back-water" and upon the subsidence of the flood, the sections of the city bordering the rivers were covered with a layer of filth. Shortly following this period, an epidemic of typhoid broke out, which was unusually prevalent in the lower sections of the city.

Logansport has only recently installed a sewer system. At the time of its construction, on account of the thin soil, much blasting of the underlying limestone stratum was necessary. Fissures in the rock were opened and as a result many dug wells were drained. In other sections wells were filled by the underground flow of sewage. No particular cause was ascribed to the mid-winter epidemic of 1913 and 1914. However, the public water supply of the city was looked upon with suspicion.

Another epidemic started in October, 1914. It steadily grew worse until December 1st. Many cases occurred after December 1st, but the later cases were traced to "contacts." In this epidemic, a study was first made as to geographic location, in order to determine if any particular section was especially affected. As a result of the preparation of a city map showing the location of each case, it was determined that the cases were scattered over the entire city proportionately to the population.

The cause of the epidemic was undoubtedly due to the unsatisfactory condition of the public water supply. The supply was taken from Eel River, a stream which flows through a rather thickly populated agricultural section. The raw river water was treated with "Hypo" as it was pumped into the city mains. The time permitted the chemical to be in contact with the water was by no means as long as it should have been and the regulating device for feeding the chemical was inaccurate nor was it properly attended to.

Samples of water taken from both the river and the treated supply showed B. Coli present in each case.

The advice given as a result of the investigation of this epidemic may be summed as follows:

- (1) Treat the present city water supply with "Hypo" at the rate of 20 pounds per million gallons.
- (2) Hasten the work on the filter plant in order to bring about its completion as soon as possible.
- (3) Extend the sewer system to provide for the St. Joseph's

Hospital drain and the surface water reaching Eel River at the Davis bridge.

(4) Construct a waterway so as to conduct Horney Creek below the 10th Street dam.

(5) Establish a control laboratory for the filter plant.

(6) Require all milk sold in the city to be pasteurized.

(7) Extend all sanitary sewer lines as rapidly as possible and require all property owners to connect.

(8) After the filter plant is producing a potable supply, conduct a sanitary survey of the private wells of the city that polluted water supplies may be eliminated as a source of infection.

(9) Emphasize the fact that typhoid fever is a dangerous and infectious disease and must be treated accordingly.

The dairies supplying milk to the city of Logansport are in good condition. Some of the dairymen buy milk from the farmers of the surrounding country where conditions under which the milk is handled are not so satisfactory. Only a part of the milk sold in the city is pasteurized and of course where pasteurization is not practiced, milk is liable to be a carrier of disease. In reference to typhoid fever, however, it may be said that a prevalence of this disease has not been found on any one dairy route indicating that milk has not been in the past epidemics a factor in the spread of typhoid.

Evidence seems to indicate that in the past a large part of the typhoid in Logansport may be attributed to the drinking from polluted water supplies.

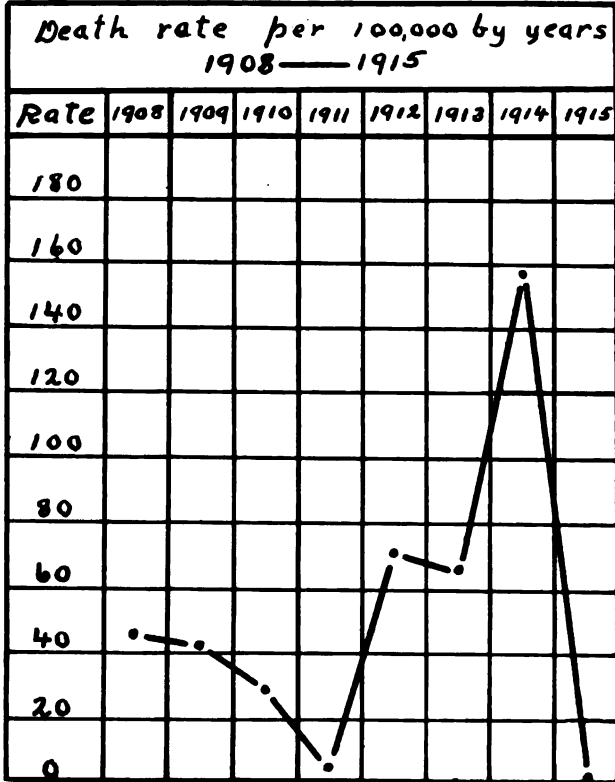
Until the construction of the filtration plant, it was questionable whether it was safer to drink from an underground water supply which might be affected by the drainage from a privy vault or a garbage pile or to drink from the public water system with the hope that all harmful organisms had been killed by chemical treatment. Such a question should no longer exist, for with the installation of the water purification plant whose efficiency is checked daily through the bacteriological control laboratory, the citizens may depend on having always available a potable water supply. With such improved water supply, typhoid fever should be reduced to the minimum. Certainly there should exist no such figures for cases and deaths as have existed for the last three years.

During the three years ending in 1914, there were in the city of Logansport 355 cases of typhoid fever, 58 of which resulted in deaths. Such a record speaks badly for the city.

It indicates that something is decidedly lacking in its sanitary improvements.

The effect which the filtration plant will have on the city's typhoid record cannot be observed until some time has passed. Undoubtedly after a few years, the experiences of Logansport will be similar to those observed at Cincinnati, Ohio, and Albany and New York, viz. a greatly reduced typhoid fever rate following the installation of an improved water supply and as well a definite improvement in the general mortality statistics.

LOGANSFORT, IND — TYPHOID FEVER



SUMMARY OF CONDITIONS AT LOGANSFORT.

The public water supply has been one of the chief causes of typhoid fever at Logansport during past years. As a factor in bringing about a high death rate the public water system has had a large influence along two lines. It has undoubtedly been the direct cause of many cases of the disease for the reason that practically all examinations of the water taken directly from Eel River have shown the

stream to be contaminated and unfit for drinking and domestic purposes. Colon Bacillus is usually present in the stream, and where this organism is found, typhoid frequently accompanies it. The use of the raw water from the river for the public supply of Logansport has acted indirectly to increase the typhoid fever rate. On account of the high turbidity of the raw water and the general fear that sickness would result from the use of such a supply many people used water from wells which were contaminated with filth from the surface of the ground.

With the present city supply which is now satisfactory from point of sanitation and turbidity, typhoid can no longer be laid to this source, as long as the purification plant is being operated efficiently.

Analyses of samples collected from 2,210 wells of the city show that 678 of these number are receiving surface water which carries organic filth and injurious bacteria. Each of these polluted water supplies has been condemned and will in the future be excluded as drinking water supplies.

Of the 2,500 privies of the city, 164 were in such an unsanitary condition that they were condemned as being factors which would endanger the health of the communities in which they were located.

The present lines of the sanitary sewer systems fail to include a large part of the city which is in great need of a satisfactory means of sewage disposal. The construction of such lines will not only improve the health of these sections, but will greatly add to the value of properties which are affected.

The disposal of city wastes, such as garbage, ashes, rubbish and the general cleanliness of the city streets and alleys is very satisfactory. The city has several excellent health ordinances and a very efficient organization for enforcing public health laws.

Typhoid fever has raged rampant in Logansport. Some of the factors causing a prevalence of this disease have been eliminated. No reason exists to cause an unusual death rate in the future.

By reason of its very adequate railroad facilities and its plentiful water supply for manufacturing purposes, Logansport is a good commercial city. There can be no doubt that the numerous epidemics of typhoid fever have in past years injured the growth and prosperity of the city. With the chief causes of this disease eliminated, added prosperity should visit the city, property values should increase and all advantages which attend municipal growth should manifest themselves in Logansport.

THE NOBLESVILLE SURVEY.

Noblesville, the county seat of Hamilton county, has, according to the 1910 census, a population of 5,073. The city is situated on the banks of White River, a short distance above its junction with Cicero Creek. The principal manufacturing industries of the city consist of a strawboard plant, a carbon works, an enamel works and flour mills. In addition to being a city favorable for manufacturing, it is, on account of the soil formations of the surrounding country, an important agricultural center of the State.

ACKNOWLEDGEMENTS.

Reports of the U. S. Geological Survey, and publications of the State Geological Department, have been used in writing of the underground formations and water supply of the city.

Dr. H. H. Thompson, Secretary of the City Board of Health entered into active co-operation with the corps of men carrying on the field work of the survey.

PHYSIOGRAPHY AND GEOLOGY OF HAMILTON COUNTY.

Hamilton county is drained by White River which enters the eastern side of the county and leaves the southern. The county is, except in the river channel, overlaid everywhere with a thick glacial mantle. In the western part of the county this unconsolidated formation reaches a depth of over 200 feet.

The eastern portion of the county is underlain with Niagara formation, while in the western half the Devonian shale is the youngest consolidated formation.

The city of Noblesville is situated on a bench below the river bluffs. This bench consists of deposits varying from 30 to 175 feet in depth. The upper gravel and soil stratum varies from 15 to 60 feet in depth. This supplies the first water wells of the city. Wells located on the thin portions of this formation are poor water bearers, while those located in the thicker portions supply a satisfactory quantity of water. Any well, however, located in this stratum is open to surface pollution which may very quickly penetrate the gravel layers.

Underlying the upper gravel formation is a layer of blue clay which averages about 20 feet in depth. Below the blue clay or hardpan

stratum is an excellent water-bearing gravel layer. Most of the wells of the city obtain water from this formation. A few however, pass into the upper layers of the Niagara limestone, which, although somewhat hard, supplies water satisfactory from a sanitary viewpoint.

THE PUBLIC WATER SUPPLY OF THE CITY OF NOBLESVILLE.

The Noblesville Public Water Supply owned by the Noblesville Water and Light Company first operated in 1892, takes its supply from drilled wells. Two of these wells, one an abandoned gas well and the other 390 feet deep, entering the Niagara formation at 80 feet, will yield 750,000 gallons per day. The water is elevated to a 50,000 gallon reservoir by an air lift. In six wells 75 to 80 feet deep located up the river from Noblesville, the water rises to ground level, but has to be lifted by a centrifugal pump to the reservoir. Nine wells which get their supply from gravel are pumped with water from reservoir directly into the mains. Pressure is applied to the mains by two Dean duplex pumps, each of 1,500,000 gallons capacity per 24 hours. The distribution system consists of 15 miles of mains ranging from 12 inches to 2 inches.

Seven hundred and fifty consumers' taps and 108 fire hydrants are supplied. The average daily pumpage is 383,000 gallons. A domestic pressure of 40 to 45 pounds is maintained.

At one time several years ago the city supply was contaminated by sewage through the breaking of the caps off the wells during an ice gorge. Since that time the wells located in the river have been abandoned eliminating any similar danger in the future.

THE PRIVATE WATER SUPPLY.

About 65 per cent of the people of Noblesville are supplied with water from privately owned wells, practically all of which are driven or drilled. A large portion of these wells tap the second gravel layer or the rock formation. A few, however, obtain first water through dug or shallow driven wells. This latter class of wells is especially open to contamination by surface filth.

In this survey 934 wells were examined. One hundred of this number, or 10.7 per cent were classed as unpotable because of sewage pollution. The portion of the city north of Cherry Street has few bad wells. Of a total of 345 in this section only 10, or 2.9 per cent, were condemned. The city south of Cherry Street has a total of

589 wells, of which 90, or 15.3 per cent, show evidences of sewage pollution. In addition to the fact that the north part of the city has a higher elevation than the south part, this section has more sanitary back yards, greater care being used to keep the well surroundings clean and free from filth. The factors have a marked effect on the character of the underground water supplies.

In Noblesville, the surface soil was of a sandy and gravelly nature, permitting any surface water to penetrate to the stratum to which the first water wells were sunk. In many cases the well curbs were of such a character that any surface water falling on or near the platform was not carried away from the well, but was permitted to fall into the well pit from where it eventually seeped into the water supply.

The accompanying table will give an idea as to the distribution of wells and their character among the four sections into which the city was divided. Section A includes the area north of Cherry Street and west of 9th Street; Section B the area north of Cherry Street and east of 9th; Section C the area south of Cherry and west of 9th; Section D the area south of Cherry and east of 9th. Map No. 4 shows the geographical location and character of the well supplies. Table No. 5, appended to this report shows the condition of individual wells.

SUMMARY OF ANALYSES AND SANITARY INSPECTIONS AT NOBLESVILLE.

	Residences.	Wells.			Privies.				Sewer Connections.
		Good.	Bad.	Total.	Good.	Fair.	Condemned.	Total.	
Sec. A...	116	40	4	44	3	38	14	55	61
Sec. B...	540	295	6	301	13	137	68	218	316
Sec. C...	293	248	50	298	19	203	73	295	54
Sec. D...	385	251	40	291	34	133	76	243	141
Totals	1,334	834	100	934	69	511	231	811	572

SANITARY INSPECTIONS.

In carrying on the sanitary studies of the city of Noblesville, a total of 811 privies were found, of which 231 were condemned as a menace to public health.

A portion of these were constructed without a pit, permitting any privy waste to be washed out on the ground by any unusual rain. Others of proper construction were condemned because they had not been cleaned out at the proper time.

Map No. 5 shows the location of all privies, cesspools and sanitary sewer lines of the city. The south part of the city has by far the larger proportion of unsanitary sewage disposal devices. In this section of the town less care is taken of the back yards and premises. As a result, also, many of the wells of this same section are polluted by the filth leaking from the surface. A most noticeable thing was the fact that many of the privies, both good and bad, were on properties that were accessible to sewers. A privy of proper construction and in sanitary condition may be permissible where no sewers are accessible for connection, but where sewers exist connection should be compulsory.

SEWERAGE SYSTEM.

Noblesville has approximately six miles of combined sewers which empty into White River through seven outfalls. Five hundred and seventy-two houses, or approximately 45 per cent of the total residences are connected to the public system. The sewer lines as now laid are available for practically 60 per cent of the residences. An ordinance should be enacted making sewer connection compulsory.

DISPOSAL OF CITY WASTES.

Garbage: No public disposal of garbage exists. In portions of the city such wastes are collected by farmers and stock growers, who haul it to the country and feed it to hogs and cattle.

Night Soil: Night soil is removed from the city by private haulers. It is taken to the farming land and buried.

Ashes and rubbish are removed by the householder. An ordinance requires that such wastes must be kept clear of the alleys.

Manufacturing Wastes: Practically the only waste other than domestic sewage reaching the river at Noblesville, is the tankage from a fertilizer factory. This is of small consequence. A strawboard works collects its wastes in ponds, from which the water evaporates or filters to the river. Save in cases of a breaking dyke or unusually high water in White River, no objectionable waste reaches this stream.

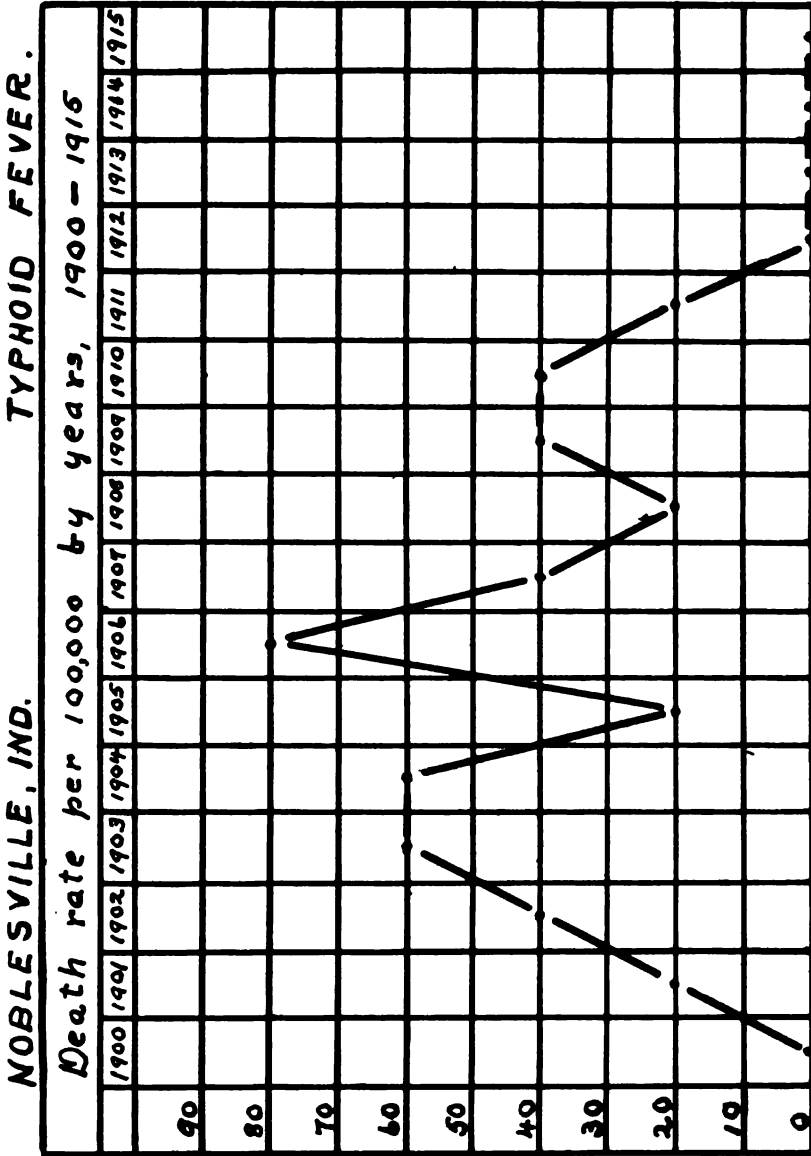
TYPHOID FEVER IN NOBLESVILLE, INDIANA.

For the 16 year period ending December 31, 1915, the typhoid fever death rate for the city of Noblesville has been 27.5 per 100,000. This is decidedly higher than should exist in a modern city which has an opportunity for a pure water supply and modern means of sewage disposal. The accompanying table and chart show that conditions have decidedly improved during the last few years. In fact, during the past four years only six cases, none of which were fatal, have occurred.

Remedying the improper conditions, such as contaminated private water supplies and unsanitary outhouses, should not only keep the typhoid fever cases at a minimum, but will assist greatly in improving the general health conditions of the city in future years.

TABLE NO. 2—TYPHOID FEVER IN NOBLESVILLE.
CASES.

[illegible]



SUMMARY OF THE CONDITIONS AT NOBLESVILLE.

During recent years the city of Noblesville has neither been visited with an unusual death rate from typhoid fever nor has it had reason to be greatly concerned about the public water supply. In spite of these facts, the city government was sufficiently concerned to desire to know more about its health conditions and its sanitation. The local health and civil authorities are to be very highly commended for their action in requesting a sanitary survey.

The public water supply, taken from deep wells, is in satisfactory condition. Practically 10 per cent of the private water supplies were found to be contaminated. Of the 755 privies in the city, 175 were found to be in an unsanitary condition and were so reported to the local Board of Health. Many of the privies should not be permitted to exist. Where a property has sewer connection available, the owner should not be allowed to construct a privy which may pollute any underground water supply and serve as a source of infection to the neighborhood. An ordinance compelling sewer connection should be enacted and the present sanitary sewer lines should be extended to serve the properties which have recently been improved.

No death from typhoid fever in Noblesville has been reported during the last four years. During this period only six cases have been reported showing that the city is in a good sanitary condition.

Noblesville is not one of the large cities of the State, but that fact does not seem to have prevented it from taking very particular care of its health conditions. The fact that it has done this so much better than some of the larger cities speaks very highly in favor of this town as a home.

CONCLUSION.

The two cities, Logansport and Noblesville are similar in a great many ways. Each has a sanitary sewer system which is used by practically one-third of the city and each has approximately 125 privy vaults for each 1,000 population. In each city are a large number of polluted water supplies.

The cities differ in public water supply and typhoid fever death rate. Logansport has been supplied in past years with a polluted water supply and as a result has had a series of typhoid fever epidemics. Noblesville has had a potable water supply and very few deaths from typhoid

Doubtless, not all the typhoid fever in Logansport can be laid to the water supply, but evidence shows that it is largely responsible for the prevalence of this disease. In each city there is great need that the condition of privies be improved and that the number of these unsanitary devices be lessened. Each city must do away with a number of private water supplies which are receiving the drainage from privy vaults, manure piles and back yards made dirty by dish water and garbage. When this is done, conditions for good health will be improved, the fly nuisance will be lessened, the foul smell of decomposing filth will leave certain quarters of each city and the financial benefit will be many times the cost of the original survey. Once cleaned up the city will stay clean with very little effort on the part of the local boards of health.

THE NEED OF A SANITARY SURVEY IN EVERY INDIANA CITY.

A number of cities carry on a systematic sanitary survey or "clean up" campaign each spring. Work of this sort is very commendable and highly profitable to the community, and fortunately the sentiment toward bringing about better sanitary conditions is growing rapidly. Any city or town of the State can carry on such inspections at a very small expense, and if such work is once initiated the labor attending it becomes less and less each year, for citizens very quickly learn the benefits of the inspections and usually are very willing to correct unsanitary conditions.

The two cities, Logansport and Noblesville, are typical Indiana cities. The sanitary improvements of these cities are representatives of the like sized communities of the State. Sanitary surveys made of practically any other Indiana municipality would disclose very similar defects and omissions in sanitary constructions. Nearly every town and city has an inexcusably larger number of privies which are a menace to the health of the community. Likewise every city has a very large number of polluted water supplies.

Very few Indiana cities have sanitary sewerage systems which are available to more than 60 per cent of the population. Very few cities enforce ordinances against unsanitary privies unless these nuisances become offensive to the sense of smell. In only a few places is sewer connection compulsory on the property owner.

While it is not possible for the Water Laboratory of the State Board of Health to carry on surveys in all the towns of the State,

the department is very willing and glad to assist by examining any suspected water supply. Inspectors, even though inexperienced in such work very rapidly learn to recognize conditions which may cause a contamination of an underground water supply.

SOURCE OF POLLUTION OF WELLS AND SUGGESTED REMEDY.

Two types of wells are especially liable to serious pollution, the dug well and the well which takes its supply from porous limestone. The dug well may receive pollution through the percolation of a contaminating substance into the water-bearing strata. A privy vault or a leaching cesspool produces pollution of this sort. A porous underground stratum is excellent for carrying away the liquid waste from a cesspool but exceedingly unsatisfactory from producing a potable water supply when the well is near such a source of contamination. Anything said in regard to the pollution of a dug well through the contamination of a water-bearing stratum applies alike to a shallow driven well.

Pollution of the class described above is far less common than pollution by direct entrance of contaminated liquids or other waste matter through the surface or near the top of the wall of the well. The filth from privies may be washed during heavy storms over the platform of the well or filthy matter on the ground near the well may be tracked by man or domestic animals and poultry, onto the covering of the well from where it eventually reaches the water supply. The covering of the well may be adequately protected but unless the walls of the well are made water-proof against seepage which penetrates the ground in the immediate vicinity of the well it will still be liable to contamination. The upper portion of the lining should be plastered with a water-proof cement to shut out such surface water.

Wells reaching a porous limestone stratum are far more unreliable than any other class.

In such formations any pollution reaching the dissolved out channels will travel great distances, practically unchanged as far as power of infection is concerned. In regions where limestone formations frequently out-crop, leakage from sewers and drainage from privies and cesspools is especially likely to reach the underground channels. Wells drawing their supply from such a formation frequently give a satisfactory, sanitary analysis, but change entirely in character when heavy rains wash filth into the crevices of the

rock. If such a well shows pollution at a single analysis it should be discarded at all time as a water supply.

Wells which take their supply from a gravel stratum which is contaminated by nearby privy vaults and cesspools may, by the removal of these nuisances, gradually regain their former state of purity. Such a change takes place exceedingly slowly and a supply taken from a well polluted in such a manner cannot be approved until several analyses show that the source of contamination is entirely removed.

The well which receives contamination near the surface or through the platform is most easily remedied. The first step in improving such a water supply is to see that no filthy matter of any sort is placed on the ground near the well. This calls for the removal of privies, chicken yards and manure piles from the immediate vicinity of the wells. Dish water and garbage must not be thrown on the ground near the well.

Secondly, the ground around the well should be higher than the surrounding surface to prevent surface water during rains from washing filth across the platform of the well.

Thirdly, the platform should be of water-tight material. Concrete serves most admirably as a cover for the well. The upper part of the lining of a dug well should be plastered with a water-proof cement to prevent seepage near the surface. Any waste water should be carried away from the well instead of allowing it to drain into the pump-pit. Without a doubt, many shallow wells are contaminated at the surface which might be converted into satisfactory water supplies at small expense if these simple principals were carried out.

THE DANGER OF PRIVIES.

The only absolutely, sanitary method of disposal of sewage is one which results in its complete destruction or cares for it in such a way that none of its products may again come in contact with human beings. The necessity for such precautions should be easily understood where the nature of sewage is known. The excreta from the kidneys and the waste materials of digestion, after they are thrown off by the body decompose with noxious odors, but these wastes are filled with living organisms, bacteria which find conditions favorable for multiplication in the digestive tract. Many of these organisms are harmless, but germs of typhoid fever, dysentary and cholera may be present and the method of disposal of these wastes must be

such that no possibility of contamination of drinking water may result. If these waste materials are thrown upon the ground, flies may carry some of the products from outhouses onto the food which is eaten. If excreta is collected in pits of porous earth, water will gradually leach out the soluble parts and carry them with some of the bacteria far down into the ground where it may reach a vein of water which supplies drink for some one.

Any sort of a privy which stores up such wastes is never perfect as far as public health is concerned. But since conditions do not permit a water carriage system for the disposal of sewage in some cases, local conditions must determine the device to be used. Privies for each household are frequently constructed. If such devices are built so as to store up wastes that none is permitted to leak away and and so that none may be carried to any food or water supply by means of animals or insects, they are satisfactory.

Ordinances in many of our Indiana cities and towns require that all privies shall be constructed with water-tight concrete or brick vaults. Such a vault, properly constructed, must have a water-tight bottom as well as solid sides. If this is not done, the dangers to nearby underground water supplies are practically as great as they would be where the filth is strewn on the surface of the ground. The construction of such a vault is practically as expensive as connection with a sanitary sewer and the keeping a device of this sort in sanitary condition requires that it be cleaned out at least once each year, the upkeep for a few years will greatly exceed the initial expense incurred by the property holder in the construction of a public sanitary sewer system. For these reasons the use of a privy in a city or town is far more expensive than the installation of a sanitary system which, in addition to adding to the comfort and convenience of the residents, will add greatly to the health insurance of the community.

TABLE NO. 3.

LOCATION OF THE PRIVATE WELLS OF LOGANSPOBT, INDIANA.

Sample Number.	Resident.	Address.	Condition of Water.
1	Home for the Friendless.....	630 Race.....	Satisfactory
2	W. Steinhart.....	624 Race.....	Satisfactory
3	Murphy & Arnold.....	616 Race.....	Satisfactory
4	City Well.....	6th & Race.....	Satisfactory
5	H. C. Fitzer.....	615 Race.....	Satisfactory
6	Mrs. Ray.....	629 Race.....	Satisfactory
7	Miss Emma Green.....	816 Race.....	Satisfactory
8	Sarah Feurer.....	822 Race.....	Satisfactory
9	..... Meyers.....	906 Race.....	Satisfactory
10	Riverside Park.....	.....	Satisfactory
11	Ted Chavis.....	929 Race.....	Satisfactory
12	Smith Bowie.....	923 Race.....	Satisfactory
13	Vacant—Jas. Douglas (owner).....	919 Race.....	Bad
14	W. M. Flinn.....	913 Race.....	Satisfactory
15	E. L. Esterbrook.....	909 Race.....	Satisfactory
16	Joseph Carson.....	831 Race.....	Satisfactory
17	..... Morris.....	827 Race.....	Satisfactory
18	Fred Six.....	728 High.....	Satisfactory
19	Gordon Hecht.....	724 High.....	Satisfactory
20	H. P. Brathway.....	708 High.....	Satisfactory
21	Carrie Lidwig.....	87—7th.....	Satisfactory
22	J. W. McGrevy.....	115—7th.....	Satisfactory
23	John Jackson.....	619 High.....	Bad
24	H. L. Tippet.....	611 High.....	Satisfactory
25	Frank Downing.....	616 North.....	Satisfactory
26	A. Thompson.....	622 North.....	Satisfactory
27	J. L. Maurice.....	703 High.....	Satisfactory
28	Ida Hutcheson.....	711 High.....	Satisfactory
29	Chris Livingston.....	709 High.....	Satisfactory
30	Francis Maurice.....	723 High.....	Bad
31	John M. Waters.....	802 High.....	Bad
32	Henry Budde.....	808 High.....	Satisfactory
33	Homer Clawson.....	814 High.....	Satisfactory
34	Ann Burns.....	830 High.....	Satisfactory
35	Harry Tritt.....	906 High.....	Satisfactory
36	Julius Wagner.....	931 High.....	Satisfactory
37	M. W. Collett.....	921 High.....	Satisfactory
38	J. Fidler.....	915 High.....	Satisfactory
39	Chas. McDowell.....	813 High.....	Satisfactory
40	Ben Porter.....	807 High.....	Satisfactory
41	George Herd.....	112—8th.....	Bad
42	George Miller.....	800 North.....	Satisfactory
43	I. Covalt.....	812 North.....	Satisfactory
44	F. L. Wolf.....	816 North.....	Bad
45	Mrs. S. E. Howe.....	912 North.....	Satisfactory
46	J. T. Elliott.....	927 North.....	Satisfactory
47	C. O. Wise.....	913 North.....	Satisfactory
48	W. W. Ross.....	903 North.....	Satisfactory
49	Mrs. D. H. Chase.....	829 North.....	Satisfactory
50	Mrs. J. A. McCullough.....	823 North.....	Satisfactory
51	J. R. Riggs.....	817 North.....	Satisfactory
52	S. B. Boyer.....	721 North.....	Satisfactory
53	C. M. Hanna.....	719 North.....	Satisfactory
54	A. & V. Hawkins.....	701 North.....	Satisfactory
55	Cistern at.....	213—7th.....	Satisfactory
56	W. B. Buyard.....	617 North.....	Satisfactory
57	B. C. Lamb.....	611 North.....	Satisfactory
58	W. Haney.....	750 Broadway.....	Satisfactory
59	G. Landis.....	810 Broadway.....	Satisfactory
60	A. T. Kern.....	814 Broadway.....	Satisfactory
61	W. Schmidt.....	726 North.....	Satisfactory
62	J. Cronin.....	720 North.....	Satisfactory
63	Chas. Grant.....	716 North.....	Satisfactory
64	T. C. Slater.....	704 North.....	Satisfactory
65	G. Raybolt.....	914 Broadway.....	Satisfactory
66	Mrs. E. Sines.....	922 Broadway.....	Satisfactory
67	J. Albert.....	930 Broadway.....	Satisfactory
68	W. M. Grafts.....	1002 Broadway.....	Satisfactory
69	J. Herrs.....	1006 Broadway.....	Satisfactory
70	John Gray.....	1013 North.....	Satisfactory
71	E. M. Kramer.....	1107 North.....	Satisfactory
72	Dr. A. N. Baker.....	1111 North.....	Satisfactory
73	H. C. Davis.....	1115 North.....	Bad
74	H. Kramer.....	1201 North.....	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
75	Mrs. Anna Laing	1211 North	Satisfactory
76	Penicost	1205 North	Satisfactory
77	E. R. Coffman	209—13th	Bad
78	F. H. Klinsick	1230 North	Satisfactory
79	J. Etnier	1216—1218 North	Bad
80	D. Green	1208 North	Bad
81	W. L. Furnald	1003 North	Satisfactory
82	Harry Metzger	1007 North	Satisfactory
83	C. L. Dilleys	1102 Broadway	Satisfactory
84	Mrs. B. Horning	1108 Broadway	Satisfactory
85	Mrs. S. Aldrige	1114 Broadway	Bad
86	Mrs. J. E. Bowyer	1124 Broadway	Bad
87	Mrs. F. Noel	1126 Broadway	Satisfactory
88	Frank Amoss	1214 Broadway	Satisfactory
89	E. C. Rodgers	1218 Broadway	Satisfactory
90	Parkers	217—13th	Bad
91	B. E. Hoffmangel	220—13th	Bad
92	Mrs. I. Crawford	1318 Broadway	Satisfactory
93	Mrs. B. Henke	1328 Broadway	Bad
94	Vacant—Emily Stewart (owner)	1331 North	Satisfactory
95	Mrs. J. Wright	1325 North	Bad
96	F. Hampel	1321 North	Satisfactory
97	C. C. Bishop	1303 North	Satisfactory
98	H. Thornton	1202 North	Satisfactory
99	Mrs. C. C. Williams	1127 High	Bad
100	C. H. DeHaven	1113 High	Satisfactory
101	L. E. Murry	1002 High	Satisfactory
102	John Kilburn	1118 High	Satisfactory
103	M. B. Harrett	1232 High	Satisfactory
104	J. H. Neff	1304 High	Satisfactory
105	F. Lux	1318 High	Satisfactory
106	Ben Pittman	1322 High	Satisfactory
107	J. P. Rose	1410 High	Bad
108	J. T. Gross	1414 High	Satisfactory
109	Wm. Rowe	1418 High	Satisfactory
110	J. Bennett	1426 High	Satisfactory
111	J. E. Frazer & Henderson	1427 High	Satisfactory
112	R. T. Hughes	1413 High	Satisfactory
113	E. S. Sampson	114—14th	Satisfactory
114	T. Butterworth	1327 High	Satisfactory
115	Frank Hall	1321 High	Satisfactory
116	1321 High	1315 High	Satisfactory
117	D. F. Reel	1303 High	Satisfactory
118	W. C. Goldsberry	1229 High	Satisfactory
119	J. S. Watters	1205 High	Satisfactory
120	Dr. J. H. Barnfield	1109 High	Satisfactory
121	Chris Jennerett	1003 High	Satisfactory
122	George A. Custer	114—10th	Satisfactory
123	R. H. Thomas	1013 High	Satisfactory
124	Mrs. Eva Reynolds	1101 High	Satisfactory
125	C. W. Traut	1108 North	Satisfactory
126	M. S. Bligh	1114 North	Satisfactory
127	Dr. J. W. Stewart	1124 North	Satisfactory
128	S. A. Vaughn	1128 North	Satisfactory
129	F. Murphy	119—13th	Satisfactory
130	A. R. Van Winkle	1314 North	Satisfactory
131	Ben Dean	1316 North	Satisfactory
132	C. W. McCormick	1320 North	Satisfactory
133	Mary W. Woll	1400 North	Satisfactory
134	C. E. Richardson	1408 North	Bad
135	A. J. Osborn	1414 North	Satisfactory
136	J. Reagan	1416 North	Bad
137	B. C. Jenkins	1430 North	Satisfactory
138	F. Vance	1431 North	Satisfactory
139	A. F. Williams	1423 North	Satisfactory
140	J. H. Lewis	1419 North	Satisfactory
141	L. Olsen	1004 North	Satisfactory
142	C. M. Swigart	1010 North	Satisfactory
143	C. E. Roberts	1415 North	Satisfactory
144	T. J. Deane	1409 North	Satisfactory
145	W. A. Burgess	1403 North	Satisfactory
146	C. J. McGrevey	1500 North	Satisfactory
147	L. E. Sellars	1508 North	Satisfactory
148	Geo. J. Snider	1514 North	Satisfactory
149	B. J. Camel	1518 North	Satisfactory
150	Chas. Foskett	1530 North	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
151	M. Mathews	1600 North	Satisfactory
152	O. C. Whitset	1416 North	Satisfactory
153	J. D. Turley	1816 North	Satisfactory
154	Vacant	1830 North	Satisfactory
155	H. D. Lange	1706 North	Satisfactory
156	C. H. Doolittle	1726 North	Satisfactory
157	H. D. Grahs	1728 North	Satisfactory
158	Jos. Wolf	1800 North	Satisfactory
159	D. C. Lee	1804 North	Bad
160	C. E. Deel	1810 North	Satisfactory
161	H. C. Klein	1814 North	Satisfactory
162	G. W. Wire	1816 North	Satisfactory
163	H. H. Thompson	1826 North	Satisfactory
164	D. D. Thistle	1830 North	Satisfactory
165	A. H. Edington	1900 North	Satisfactory
166	I. C. Hess	1914 North	Satisfactory
167	F. L. Baker	115—20th	Satisfactory
168	F. Heenan	1923 High	Satisfactory
169	W. W. Sines	1913 High	Satisfactory
170	George A. Schafer	1903 High	Satisfactory
171	I. R. Redinger	1827 High	Satisfactory
172	James Bass	1831 High	Bad
173	Mrs. L. Dodds	1819 High	Satisfactory
174	J. Kester	1815 High	Satisfactory
175	C. A. Marsh	1801 High	Satisfactory
176	B. F. Newer	1731 High	Satisfactory
177	Thos. Garvin	1721 High	Satisfactory
178	W. E. Foskett	1705 High	Satisfactory
179	J. P. Reneker	1631 High	Satisfactory
180	Mrs. A. B. Reed	1817 High	Satisfactory
181	A. F. Arthur	1408 Broadway	Bad
182	L. C. Green	1402 Broadway	Bad
183	Josie Grianer	1422 Broadway	Bad
184	M. Wallace & H. Greene	219—15th	Satisfactory
185	R. L. Woodling	1507 North	Satisfactory
186	G. B. Grove	1515 North	Satisfactory
187	Jos. Minneman	1531 North	Bad
188	R. L. Cotton	1501 High	Satisfactory
189	C. V. Tuttle	1507 High	Satisfactory
190	Chas. Cohee	1519 High	Satisfactory
191	Thos. A. Feden	1527 High	Bad
192	Mrs. Jos. Spitznagal	1526 High	Satisfactory
193	S. A. Rollins	1518 High	Bad
194	R. Hendorf	1514 High	Satisfactory
195	V. H. Halderman	1500 Miles	Satisfactory
196	J. B. Klein	1524 Douglass	Satisfactory
197	John Todd	1519 Miles	Satisfactory
198	D. F. Martin	1531 Miles	Satisfactory
199	W. G. Powers	82—16th	Bad
200	Frank Rohdes	68—16th	Bad
201	A. R. Penrose	1609 Miles	Bad
202	L. A. Smith	1615 Miles	Bad
203	H. M. Wright	1617 Miles	Bad
204	H. E. Githen	1610 Miles	Bad
205	L. E. Baker	1630 Douglas	Satisfactory
206	R. Kiesel	46—17th	Satisfactory
207	C. A. Plothmer	62—17th	Bad
208	G. S. Maxson	66—17th	Bad
209	J. Downs	82—17th	Satisfactory
210	W. B. Davis	1750 High	Satisfactory
211	Jos. Peters	1706 High	Bad
212	H. E. Bowles	1714 High	Satisfactory
213	J. B. Gresham	1720 High	Satisfactory
214	Emma B. Harley	1728 High	Satisfactory
215	F. O. Hockenbemer	70—18th	Satisfactory
216	F. Smll	1814 High	Satisfactory
217	J. A. Cottner	1822 High	Satisfactory
218	G. L. Hendee	1904 High	Satisfactory
219	J. P. Dugan	1920 High	Satisfactory
220	S. F. Johnson	1930 High	Bad
221	F. H. Wipperman	1605 North	Bad
222	Ed. Schepler	1617 North	Satisfactory
223	O. L. Babion	1619 North	Satisfactory
224	Mrs. A. K. Stull	1629 North	Satisfactory
225	D. A. Porter	1701 North	Satisfactory
226	A. E. Snell	1705 North	Satisfactory

TABLE NO. 3—Continued.

Sample Number	Resident	Address	Condition of Water
227	F. W. Schultz	1711 North	Satisfactory
228	H. W. Klick	1713 North	Satisfactory
229	T. J. Sanders	1721 North	Satisfactory
230	W. R. Thomas	1725 North	Satisfactory
231	A. C. Powell	1729 North	Satisfactory
232	C. N. Stevenson	214—18th	Satisfactory
233	E. W. Anderson	200—18th	Satisfactory
234	H. E. Blessingham	1809 North	Satisfactory
235	O. R. McMillan	1815 North	Satisfactory
236	C. E. Helvic	1817 North	Bad
237	F. V. Guthrie	1827 North	Satisfactory
238	Mrs. S. S. Worstell	1831 North	Satisfactory
239	J. G. Tedford	1901 North	Satisfactory
240	M. Brown	1915 North	Satisfactory
241	Chas. Beeman	1923 North	Satisfactory
242	G. M. Bartley	1927 North	Satisfactory
243	V. Byers	1931 North	Bad
244	Viola Yantis	2001 North	Satisfactory
245	H. C. Penwell	2005 North	Satisfactory
246	A. P. Ukes	2019 North	Satisfactory
247	B. B. Hide	2023 North	Satisfactory
248	J. M. Dudley	2025 North	Satisfactory
249	J. M. Wilson	2127 North	Satisfactory
250	L. J. Mecht	221 North	Satisfactory
251	M. Farrel	2303 North	Satisfactory
252	Mrs. E. Humburg	2308 North	Satisfactory
253	Mrs. Mary Manning	2300 North	Satisfactory
254	M. C. Engler	2230 North	Satisfactory
255	Mrs. E. M. Webster	2222 North	Satisfactory
256	Jos. E. Crane	2202 North	Satisfactory
257	Mrs. S. A. Fisher	2130 North	Satisfactory
258	W. W. Thorn	2122 North	Satisfactory
259	A. A. Field	2114 North	Satisfactory
260	W. F. Baker	2018 North	Satisfactory
261	Homer Craigan	2000 North	Satisfactory
262	O. N. Zinn	1608 Broadway	Satisfactory
263	Mrs. W. D. Aidghe	1622 Broadway	Satisfactory
264	Phil. Ramp	1700 Broadway	Satisfactory
265	Stanley Mathews	1710 Broadway	Satisfactory
266	Ed. Manes	1714 Broadway	Satisfactory
267	N. L. Nethercutt	1718 Broadway	Satisfactory
268	G. F. Rose	1726 Broadway	Satisfactory
269	F. A. Dykeman	1730 Broadway	Satisfactory
270	H. Jensen	1814 Broadway	Satisfactory
271	Frank Clemens	1822 Broadway	Satisfactory
272	F. L. Baker	1826 Broadway	Satisfactory
273	D. E. Jackson	1830 Broadway	Satisfactory
274	J. K. Baird	1904 Broadway	Satisfactory
275	Wm. Nuhfer	1918 Broadway	Satisfactory
276	Henry Klinck	1926 Broadway	Satisfactory
277	A. G. Jenkins	2100 Broadway	Satisfactory
278	D. E. Tucker	1930 Broadway	Satisfactory
279	George Hilton	2022 Broadway	Satisfactory
280	John Camel	2026 Broadway	Satisfactory
281	A. N. Justice	2116 Broadway	Satisfactory
282	J. D. Hite	2126 Broadway	Satisfactory
283	F. E. Jefferson	2318 Broadway	Satisfactory
284	John G. Keip	2500 Broadway	Satisfactory
285	W. H. Chrocan	2540 Broadway	Satisfactory
286	St. Jos. Hospital	—28th	Satisfactory
287	Bessie Austin	1610 High	Satisfactory
288	Mrs. F. Baker	1602 High	Satisfactory
289	W. H. Jones	1626 High	Satisfactory
290	W. L. Klausen	1630 High	Satisfactory
291	Bert Minnick	1609 High	Satisfactory
292	Clyde Reeves	1613 High	Satisfactory
293	C. D. Kerlin	1603 High	Satisfactory
294	Adam Graf	2022 High	Satisfactory
295	Mrs. H. H. Robertson	2001 High	Satisfactory
296	Dr. I. J. Baker	2019 High	Satisfactory
297	C. D. Billman	2109 High	Satisfactory
298	J. W. Jakes	2121 High	Satisfactory
299	C. Alsdl	2129 High	Satisfactory
300	A. Schaffer	2211 High	Satisfactory
301	Mrs. Mary Personnette	2231 High	Satisfactory
302	C. E. Brandt	2234 High	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
303	W. L. Adler	2302 High	Satisfactory
304	B. L. Silver	2318 High	Satisfactory
305	R. D. Eldroff	2301 High	Satisfactory
306	W. N. McDowe	2403 High	Satisfactory
307	D. M. Chrisman	2400 High	Satisfactory
308	O. Carter	2404 High	Satisfactory
309	J. C. Gerrard	2507 High	Satisfactory
310	St. Jos. Hospital	26th	Satisfactory
311	Forest Park	26th	Bad
312	L. J. Burdge	2533 Broadway	Satisfactory
313	W. H. Lindsay	2319 Broadway	Satisfactory
314	T. J. Plank	2301 Broadway	Satisfactory
315	C. O. Heffley	2231 Broadway	Satisfactory
316	J. A. Thompson	2205 Broadway	Satisfactory
317	E. D. Klosson	2125 Broadway	Satisfactory
318	M. F. Mahoney	2101 Broadway	Satisfactory
319	H. H. Hoffman	2025 Broadway	Satisfactory
320	Dr. H. C. Johnson	2015 Broadway	Satisfactory
321	J. F. Linaman	2001 Broadway	Satisfactory
322	C. W. Reed	1925 Broadway	Satisfactory
323	W. A. Fisherbuck	1917 Broadway	Satisfactory
324	C. Farrell	1831 Broadway	Satisfactory
325	J. M. Boyer	1829 Broadway	Satisfactory
326	R. Sawcett	1818 Broadway	Satisfactory
327	S. Smith	1817 Broadway	Satisfactory
328	F. Stock	1811 Broadway	Satisfactory
329	T. Morris	1801 Broadway	Satisfactory
330	Mrs. E. Gipard	1725 Broadway	Satisfactory
331	C. A. Boatman	1723 Broadway	Satisfactory
332	J. T. Simons	1703 Broadway	Satisfactory
333	J. B. Collin	1713 Broadway	Satisfactory
334	Jos. Harts	1711 Broadway	Satisfactory
335	A. C. Smyser	1631 Broadway	Satisfactory
336	W. B. Mysener	1621 Broadway	Satisfactory
337	Mrs. C. Himleberger	1603 Broadway	Satisfactory
338	J. Hoppingheimer	1526 Broadway	Satisfactory
339	W. Farrell	1514 Broadway	Satisfactory
340	Mrs. A. R. Smith	1503 Broadway	Satisfactory
341	R. R. Yeagley	307—16th	Satisfactory
342	Frank Burnett	1523 Broadway	Satisfactory
343	W. M. Gordon	1515 Broadway	Satisfactory
344		1509 Broadway	Bad
345	C. C. Clayburn	1505 Broadway	Satisfactory
346	Anna Maurice	1429 Broadway	Bad
347	George Beck	1423 Broadway	Bad
348	C. J. Constille	1419 Broadway	Bad
349	Harry Rhodes	1415 Broadway	Bad
350	L. F. Diebolt	1407 Broadway	Bad
351	Chas. Williams	1207 Broadway	Satisfactory
352	E. W. Studebaker	1131 Broadway	Satisfactory
353	W. J. Uhle	1115 Broadway	Satisfactory
354	J. M. Like	315—11th	Satisfactory
355	Sisters of Holy Cross	905 Broadway	Satisfactory
356	Rufus McGee	315—9th	Satisfactory
357	Edward Hankee	309—8th	Satisfactory
360	D. D. Radcliffe	816 E. Market	Satisfactory
361	J. M. Dawley	820 E. Market	Satisfactory
362	John Barne	319—9th	Satisfactory
363	Mrs. A. J. Murdock	906 E. Market	Bad
364	G. E. Ross	912 E. Market	Satisfactory
365	O. H. Binns	1004 E. Market	Satisfactory
366	W. B. Lewis	1100 E. Market	Bad
367	Dr. H. W. Cadij	1108 E. Market	Satisfactory
368	W. H. Brown	1112 E. Market	Bad
369	Emil Ford	1128 E. Market	Bad
370		321—12th	Bad
371	R. H. Parker	1200 Market	Satisfactory
372	G. B. Forgy	1230 Market	Satisfactory
373		1402 Market	Satisfactory
374	Russell Brown	1408 Market	Bad
375	C. J. Chormley	1418 Market	Bad
376	Fercee	1422 Market	Satisfactory
377	A. J. Anheier	1424 Market	Satisfactory
378	P. Edwards	325—15th	Satisfactory
379	William Christ	316—15th	Satisfactory
380	E. R. Welch	1510 Market	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
381	S. D. Dawson	1518 Market	Satisfactory
382	M. M. Monahan	1530 Market	Bad
383	J. E. Fitz	320—16th	Satisfactory
384	E. Johnson	1610 Market	Satisfactory
385	Fred Bishop	1620 Market	Satisfactory
386	J. M. Greene	1628 Market	Bad
387	Mrs. H. G. Landis	1706 Market	Satisfactory
388	P. J. Kiminen	1722 Market	Satisfactory
389	G. Smallwood	1730 Market	Satisfactory
390	A. Bushbalm	1804 Market	Satisfactory
391	J. P. Slaybaugh	1810 Market	Satisfactory
392	W. H. Hayworth	1814 Market	Satisfactory
393	Charles Baker	1818 Market	Satisfactory
394	Wm. Vernon	1822 Market	Satisfactory
395	Henry Monigan	1824 Market	Satisfactory
396	T. E. Cochran	1850 Market	Bad
397	Mrs. V. Schnitz	1906 Market	Bad
398	Roy Hay	1914 Market	Satisfactory
399	J. H. Hench	1922 Market	Satisfactory
400	C. B. Jullan	1930 Market	Bad
401	John Meyer	2002 E. Market	Satisfactory
402	T. C. Gray	2010 E. Market	Satisfactory
403	L. V. Front	2022 E. Market	Satisfactory
404	Mike Navin	2024 E. Market	Bad
405	Harry Buhrnester	2110 Market	Bad
406	Harold Peterson	2114 Market	Satisfactory
407	O. P. Noble	2116 Market	Satisfactory
408	Ed. Schnell	2217 Market	Satisfactory
409	J. G. Ludwig	2209 Market	Satisfactory
410	Sylvester Williams	2201 Market	Bad
411	J. P. Hochholder	2129 Market	Satisfactory
412	Carl Rehm	2111 Market	Satisfactory
413	Mrs. N. Bell	2029 Market	Satisfactory
414	Jane Birkenreth	2021 Market	Satisfactory
415	Roy Arnold	2015 Market	Bad
416	W. A. Tiegler	2003 Market	Bad
417	J. J. Evans	415—20th	Satisfactory
418	E. R. Strahlem	1921 Market	Bad
419	J. W. Hocker	1919 Market	Satisfactory
420	Arthur Hobson	1913 Market	Bad
421	Wm. Whipple	1905 Market	Bad
422	C. E. Gill	1829 Market	Satisfactory
423	A. E. Naylor	1833 Market	Satisfactory
424	C. R. Bennett	1821 Market	Satisfactory
425	Harry St. Clair	1729 Market	Satisfactory
426	M. P. Dolan	1719 Market	Bad
427	Alice Hensley	1631 Market	Bad
428	Mrs. Alice Hanley	1627 Market	Bad
429	J. A. Simons	1617 Market	Satisfactory
430	James Hooley	1613 Market	Satisfactory
431	S. W. Eixenbrle	1611 Market	Bad
432	Mrs. E. Williams	1601 Market	Satisfactory
433	B. E. Hoover	1527 Market	Bad
434	Perry Sayger	1523 Market	Bad
435	G. W. Hoffman	1515 Market	Satisfactory
436	C. M. Perry	1509 Market	Satisfactory
437	Mrs. Carney	1503 Market	Satisfactory
438	B. W. Heeley	1429 Market	Satisfactory
439	L. E. Reed	1423 Market	Satisfactory
440	Geneva Strain	1413 Market	Satisfactory
441	D. D. Fickle	1403 Market	Satisfactory
442	F. H. Hartle	1329 Market	Satisfactory
443	J. P. Henderson	1317 Market	Satisfactory
444	P. Grady	1311 Market	Bad
445	J. M. Johnston	1301 Market	Satisfactory
446	Mrs. Comingore	1231 Market	Bad
447	George Ramsey	1219 Market	Bad
448	J. M. Hayworth	1217 Market	Bad
449	Ed. Maroney	1215 Market	Satisfactory
450	Lon Saxon	1209 Market	Bad
451		1131 Market	Bad
452	Leonard Carson	1129 Market	Satisfactory
453	Mrs. S. Rheinhamer	1121 Market	Bad
454	Mrs. W. S. Grant	1115 Market	Satisfactory
455	W. R. Kelley	1105 Market	Bad
456	Mrs. McGreery	414—10th	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
457	Mrs. Zack Taylor	823 Market	Satisfactory
458	George Taber	729 Market	Satisfactory
459	George Seybold	715 Market	Satisfactory
460	H. F. Coleman	711 Market	Satisfactory
461	Mrs. J. C. Nelson	405—7th	Satisfactory
462	Post Office		Satisfactory
463	J. D. Jarrett	728 Spencer	Satisfactory
464	S. M. Velsey	425—9th	Satisfactory
465	Mrs. A. Cordell	416—9th	Satisfactory
466	Mrs. A. J. Parken	421—10th	Satisfactory
467	J. J. Shearin	416—10th	Satisfactory
468	Mrs. M. B. Coffin	416—11th	Bad
469	J. C. Reccers	1107 Spear	Bad
470	Mrs. N. G. Furgeson	1112 Spear	Bad
471	Mary Schork	1118 Spear	Satisfactory
472	Mrs. M. Knight	426—12th	Bad
473	R. J. Saxon	1206 Spear	Bad
474	Mrs. Ed. Gormley	1214 Spear	Satisfactory
475	C. F. Bohlen	1222 Spear	Satisfactory
476	J. Mullet	419—13th	Bad
477	Vacant	1300 Spear	Bad
478	William Kerrigan	1312 Spear	Satisfactory
479	Jas. O'Connel	1316 Spear	Bad
480	C. P. Delaney	1318 Spear	Satisfactory
481	Mrs. Ellen Dailey	1324 Spear	Bad
482	B. F. Butler	1400 Spear	Bad
483	J. Nicoles	1408 Spear	Bad
484	David Bowman	1414 Spear	Bad
485	F. E. Woodlane	1418 Spear	Bad
486	I. G. Wilson	1422 Spear	Bad
487	P. L. Rearick	421—15th	Satisfactory
488	Frank Reed	1510 Spear	Satisfactory
489	W. C. Swayney	1514 Spear	Satisfactory
490	L. J. Livingston	1516 Spear	Satisfactory
491	J. R. Sisson	1522 Spear	Satisfactory
492	Della Snyder	421—16th	Satisfactory
493	W. E. Stultz	416—16th	Bad
494	Mrs. Alice Tremp	1600 Spear	Satisfactory
495	D. R. Houser	1608 Spear	Bad
496	Harvey Spark	1612 Spear	Bad
497	John Ruby	1616 Spear	Bad
498	C. F. Rosenstrager	1622 Spear	Bad
499	Albert Evers	1630 Spear	Bad
500	C. E. Cline	1710 Spear	Satisfactory
501	T. M. Hoffman	1714 Spear	Satisfactory
502	Chas. Huber	1718 Spear	Satisfactory
503	H. C. Peterson	1722 Spear	Satisfactory
504	George Seales	1730 Spear	Satisfactory
505	W. F. Gordan	416—18th	Satisfactory
506	Margaret Laughlin	1802 Spear	Satisfactory
507	C. V. Loop	1810 Spear	Bad
508	Geo. B. Davis	1814 Spear	Satisfactory
509	D. B. Enyart	1816 Spear	Satisfactory
510	Joe Starkey	1822 Spear	Satisfactory
511	Herman Case	1826 Spear	Bad
512	E. V. McAllister	1830 Spear	Satisfactory
513	C. L. Baltzell	1902 Spear	Satisfactory
514	H. Brown	1906 Spear	Satisfactory
515	J. M. Kelley	1910 Spear	Satisfactory
516	Jas. Hilton	1912 Spear	Bad
517	E. Alder	1916 Spear	Satisfactory
518	F. L. Marshall	1920 Spear	Satisfactory
519	Martin Detcher	2000 Spear	Satisfactory
520	Ben Artrit	2014 Spear	Bad
521	Harry Kessling	2024 Spear	Satisfactory
522	Mrs. Dora Bower	2100 Spear	Satisfactory
523	Fred Vetscher	2116 Spear	Satisfactory
524	W. B. Williams	2130 Spear	Satisfactory
525	B. E. Harner	2210 Spear	Satisfactory
526	J. S. Wilson	2216 Spear	Satisfactory
527	O. E. Ferree	2300 Spear	Satisfactory
528	C. R. Leiburch	2330 Spear	Satisfactory
529	Ottis Middleton	2319 Spear	Satisfactory
530	B. W. Oberly	2315 Spear	Satisfactory
531	Mrs. T. J. Miller	2311 Spear	Satisfactory
532	William Willis	2309 Spear	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
533	F. W. Hause	2305 Spear	Satisfactory
534	H. S. Kelbert	2301 Spear	Satisfactory
535	S. C. Patton	2231 Spear	Satisfactory
536	S. B. Maple	2225 Spear	Satisfactory
537	Mrs. E. Reader	2221 Spear	Satisfactory
538	C. H. Potthoff	2022 Spear	Satisfactory
539	Morris Cavin	2027 Spear	Satisfactory
540	Henry Wadki	2019 Spear	Satisfactory
541	T. B. Hunt	2009 Spear	Satisfactory
542	J. D. Crose	1917 Spear	Satisfactory
543	S. L. Cottner	1829 Spear	Satisfactory
544	D. E. Hughes	1825 Spear	Satisfactory
545	Henry McCharles	1815 Spear	Satisfactory
546	A. M. Thomas	1805 Spear	Satisfactory
547	J. E. Conner	1801 Spear	Bad
548	Chas. Hand	1731 Spear	Bad
549	Wm. Muckenfess	1721 Spear	Satisfactory
550	J. T. Hunter	1715 Spear	Satisfactory
551	Mrs. George Winsel	1705 Spear	Bad
552	Otto Johnson	1701 Spear	Bad
553	T. F. Carney	1631 Spear	Bad
554	D. P. Cotton	1625 Spear	Bad
555	Jacob Craig	1623 Spear	Bad
556	Mary H. Burgman	1617 Spear	Bad
557	Dudley Smith	1605 Spear	Satisfactory
558	W. Radcliffe	1601 Spear	Satisfactory
559	B. Hobby	1531 Spear	Satisfactory
560	C. L. Stewart	1517 Spear	Bad
561	Robert Greene	1509 Spear	Bad
562	Isaac Davis	1503 Spear	Bad
563	Otto Burgman	1431 Spear	Bad
564	Wm. Jameson	1425 Spear	Bad
565	P. F. Grady	1423 Spear	Bad
566	G. K. Shigley	1417 Spear	Bad
567	Wm. Kerber	1415 Spear	Bad
568	Clara Galligan	511—14th	Bad
569	Mrs. Newman	1331 Spear	Bad
570	Mrs. Boles	1325 Spear	Bad
571	Cecil Bennett	1305 Spear	Bad
572	L. B. Owen	508—13th	Bad
573	John Kramer	514—13th	Bad
574	C. D. Russell	1213 Spear	Satisfactory
575	M. Canad	506—12th	Satisfactory
576	Edison Garber	506 Fitch	Bad
577	Katris Smith	512 Fitch	Bad
578	Bert Saxon	515 Fitch	Bad
579	Isaac Reed	507 Fitch	Bad
580	W. J. Wagner	1109 Spear	Bad
581	W. W. Murray	515—10th	Satisfactory
582	K. K. McKinzie	919 Spear	Bad
583	J. J. Hannon	907 Spear	Satisfactory
584	W. E. Ganet	727 Spencer	Satisfactory
585	G. M. Crooks	912 Erie	Satisfactory
586	Chas. Shilling	614—10th	Satisfactory
587	Fred Otto	608—10th	Satisfactory
588	J. Noel	532—10th	Satisfactory
589	W. H. Honick	527—11th	Satisfactory
590	J. Ferguson	525—11th	Bad
591	S. E. Gotshall	523—11th	Satisfactory
592	C. Gruber	603—11th	Satisfactory
593	W. H. Bear	607—11th	Bad
594	Mrs. M. McCarty	1024 Erie	Satisfactory
595	Mrs. Guidain	1008 Erie	Satisfactory
596	H. Conners	531 Fitch	Bad
597	Chas. Brosier	518 Fitch	Bad
598	H. Etnier	1120 George	Bad
599	Campbell	1200 George	Satisfactory
600	G. B. Washburn	1230 George	Satisfactory
601	G. Mehrle	516—13th	Bad
602	W. E. Scriptor	526—13th	Bad
603	Chas. Eltroth	1314 George	Bad
604	A. I. Renthfrow	1318 George	Bad
605	C. E. Dunlap	1320 George	Satisfactory
606	J. C. Wecht	1328 George	Satisfactory
607	D. A. Middleton	1400 George	Bad
608	E. M. Beao	1414 George	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
609	J. Navin	1416 George.	Satisfactory
610	Chas. Shafer	571—15th	Bad
611	Chas. Warne	519—15th	Bad
612	C. Tuttle	516—15th	Bad
613	A. Herman	1508 George.	Satisfactory
614	R. Minglin	1510 George.	Satisfactory
615	Vacant—Wm. Frazer (owner)	1526 George.	Bad
616	Wm. Frazier	1528 George.	Satisfactory
617	C. J. Sellers	1600 George.	Satisfactory
618	C. Ammons	1610 George.	Satisfactory
619	J. H. Reeves	1628 George.	Satisfactory
620	A. E. Conrad	1700 George.	Satisfactory
621	A. W. Brinley	1712 George.	Satisfactory
622	G. Ebey	1722 George.	Satisfactory
623	G. Kaff	1730 George.	Satisfactory
624	J. Shafer	1800 George.	Satisfactory
625	S. B. Specie	1812 George.	Satisfactory
626	L. O. Miller	1816 George.	Satisfactory
627	W. D. Marshall	1826 George.	Satisfactory
628	E. H. Guy	1830 George.	Satisfactory
629	N. Faber	1902 George.	Satisfactory
630	G. H. Geyer	1914 George.	Satisfactory
631	Mary Shafer	1918 George.	Satisfactory
632	W. B. Atkins	1922 George.	Satisfactory
633	A. Shomrad	2010 George.	Satisfactory
634	L. D. Huffman	2422 George.	Satisfactory
635	R. Land	R. R. No. 11	Satisfactory
636	Ed. Williams	1925 George.	Bad
637	G. W. Young	1911 George.	Satisfactory
638	Miles Shafer	1905 George.	Satisfactory
639	Levi Powell	1901 George.	Satisfactory
640	A. A. Reyburn	1831 George.	Satisfactory
641	Elmer Scott	1819 George.	Satisfactory
642	George Bell	1815 George.	Satisfactory
643	J. H. Shafer	1811 George.	Satisfactory
644	R. E. Descans	1807 George.	Satisfactory
645	W. E. Patterson	1801 George.	Satisfactory
646	R. P. Creager	1731 George.	Satisfactory
647	W. S. Gangloff	1727 George.	Satisfactory
648	Ben Bullock	1721 George.	Satisfactory
649	Mrs. S. B. Moon	1717 George.	Satisfactory
650	Margaret Heltzman	1713 George.	Satisfactory
651	H. R. DePoy	1705 George.	Satisfactory
652	Elizabeth Fausler	1619 George.	Satisfactory
653	J. Sellers	1631 George.	Satisfactory
654	J. F. Bargerhuff	1615 George.	Satisfactory
655	A. D. Easterday	1611 George.	Satisfactory
656	Heater Hawkins	1601 George.	Satisfactory
657	J. C. Sullivan	1527 George.	Bad
658	John J. Murphy	1523 George.	Bad
659	W. P. Williams	1519 George.	Bad
660	Frank Sellers	1515 George.	Bad
661	F. Kavin	1507 George.	Bad
662	Mrs. K. St. Clair	1503 George.	Bad
663	Vacant—Chas. Douglas (owner)	1431 George.	Bad
664	H. Berd	1423 George.	Bad
665	M. Overpeck	1417 George.	Bad
666	E. E. Williams	1413 George.	Satisfactory
667	M. C. Knarr	1331 George.	Satisfactory
668	W. S. Koch	1327 George.	Bad
669	John Shafer	1323 George.	Bad
670	Jas. Newmeyer	1319 George.	Bad
671	R. O. Daywalt	1313 George.	Bad
672	C. F. Henderson	1307 George.	Bad
673	U. S. Huffman	1301 George.	Satisfactory
674	F. R. Foy	615—13th	Satisfactory
675	E. Smith	1215 George.	Bad
676	John Tuberty	608—12th	Bad
677	F. E. Granger	614—12th	Bad
678	A. J. Sourbrine	615—12th	Satisfactory
679	Harry Collins	602—12th	Satisfactory
680	Mr. Cochran	1115 George.	Bad
681	D. G. Loftus	1109 George.	Satisfactory
682	R. H. Calloway	616—11th	Bad
683	John Scarfellen	620—11th	Satisfactory
684	Carl Wildarmuth	1114 Erie.	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
685	Frank Peronne	711—12th.	Satisfactory
686	J. B. McKelvey	703—12th.	Satisfactory
687	Joel Lococo	613—12th.	Bad
688	Mary Floyd	629—12th.	Satisfactory
689	Tony Pozale	621—12th.	Bad
690	J. D. Bright	616—12th.	Satisfactory
691	Frank Hoot	620—12th.	Satisfactory
692	H. M. Gottschall	622—12th.	Bad
693	Chas. Bell	630—12th.	Bad
694	James Cotner	1216 Smead	Bad
695	Will Moesta	1230 Smead	Satisfactory
696	L. Huffman	1300 Smead	Bad
697	Mrs. L. Simons	1306 Smead	Bad
698	J. F. Liffert	1308 Smead	Satisfactory
699	Joseph Petrie	1314 Smead	Bad
700	J. H. Munger	1318 Smead	Bad
701	Mr. Brewer	1324 Smead	Bad
702	L. Spellman	1330 Smead	Satisfactory
703	George Fertig	1404 Smead	Bad
704	Wm. Neffer	1406 Smead	Bad
705	George Rothermel	1410 Smead	Bad
706	C. F. Coffman	1416 Smead	Bad
707	G. L. Nottingham	1424 Smead	Bad
708	J. Spidel	1430 Smead	Bad
709	Mrs. M. Bergman	1502 Smead	Satisfactory
710	Mrs. M. Bergman	1502 Smead	Bad
711	Mr. Spagnaw	1514 Smead	Bad
712	H. A. Seckler	1518 Smead	Bad
713	Chas. Fertig	1528 Smead	Bad
714	K. F. Leady	1602 Smead	Satisfactory
715	Julia Gaby	1610 Smead	Satisfactory
716	Emma Armstrong	1618 Smead	Bad
717	H. Berndt	629—17th.	Bad
718	Earnest Warner	625—17th.	Bad
719	Jacob Haynes	621—17th.	Bad
720	E. Murphy	1704 Smead	Satisfactory
721	Bell Williams	1716 Smead	Satisfactory
722	John G. Albrecht	1724 Smead	Satisfactory
723	R. Burnts	1804 Smead	Satisfactory
724	Minnie Lincoln	1812 Smead	Satisfactory
725	Mrs. Lena Greeler	1824 Smead	Satisfactory
726	Chas. Large	1914 Smead	Satisfactory
727	Chas. Schmidt	2016 Smead	Satisfactory
728	W. H. Herr	2126 Smead	Satisfactory
729	C. W. Stephans	2201 Smead	Satisfactory
730	George Ganglarff	2129 Smead	Satisfactory
731	George R. Jackson	2111 Smead	Satisfactory
732	H. C. Hamilton	2101 Smead	Satisfactory
733	John Thaln	1829 Smead	Satisfactory
734	I. M. Newcom	1827 Smead	Satisfactory
735	Frank Swartz	1823 Smead	Satisfactory
736	S. Hayworth	1811 Smead	Satisfactory
737	S. D. Jackson	1731 Smead	Satisfactory
738	J. A. Zember	1721 Smead	Satisfactory
739	Lewis Suter	1707 Smead	Satisfactory
740	C. N. Shaw	1629 Smead	Bad
741	Mr. Bragg	1621 Smead	Satisfactory
742	W. J. Champion	1607 Smead	Bad
743	H. Bell	1603 Smead	Bad
744	Mary White	1515 Smead	Satisfactory
745	T. O. Connor	1507 Smead	Bad
746	Chas. Beasey	1503 Smead	Bad
747	N. L. McGath	1427 Smead	Bad
748	Martha McGaughey	1421 Smead	Bad
749	Mary Hilley	1415 Smead	Satisfactory
750	S. Shaw	702—14th.	Bad
751	J. Juln	710—14th.	Bad
752	F. Miller	714—14th.	Bad
753	George Bubel	1329 Smead	Satisfactory
754	P. Levison	1325 Smead	Bad
755	James Moran	1319 Smead	Bad
756	L. E. Shick	1313 Smead	Bad
757	John Hetzner	702—13th.	Satisfactory
758	F. Samsal	706—13th.	Satisfactory
759	John Wolf	712—13th.	Bad
760	J. Helms	1229 Smead	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
761	M. M. Griffith.	1219 Smead.	Satisfactory
762	W. S. Spencer.	1215 Smead.	Satisfactory
763	John J. Griffin.	1209 Smead.	Satisfactory
764	James Meham.	1203 Smead.	Satisfactory
765	R. McDonald.	1212 Erie Ave.	Satisfactory
766	Mrs. S. Carl.	1206 Wright.	Satisfactory
767	Wm. McLaughlin.	1222 Wright.	Bad
768	R. M. Costello.	1228 Wright.	Bad
769	G. Fedig.	1306 Wright.	Bad
770	John Peter.	1308 Wright.	Bad
771	J. H. Shoemaker.	1310 Wright.	Bad
772	N. H. Schwerling.	1314 Wright.	Bad
773	B. S. Zimmerman.	1318 Wright.	Bad
774	P. S. Smith.	1326 Wright.	Bad
775	E. R. Purddy.	1330 Wright.	Bad
776	John Enslie.	1400 Wright.	Satisfactory
777	P. T. Hill.	1408 Wright.	Bad
778	Wm. Gibbs.	1414 Wright.	Bad
779	Mrs. H. C. Schaefer.	1416 Wright.	Bad
780	T. W. Chapel.	1426 Wright.	Bad
781	J. W. Loner.	1428 Wright.	Bad
782	Gus Burgman.	720—15th.	Bad
783	Wm. Pfaff.	724—15th.	Satisfactory
784	E. McQuire.	1514 Wright.	Bad
785	Harry Schawitsch.	1516 Wright.	Bad
786	J. Ream.	1522 Wright.	Bad
787	George Bullman.	1606 Wright.	Satisfactory
788	W. A. White.	731—17th.	Bad
789	H. M. Gaumer.	725—17th.	Satisfactory
790	T. A. Lufey.	717—17th.	Satisfactory
791	F. H. Baker.	722—17th.	Satisfactory
792	P. J. Ruff.	726-30—17th.	Satisfactory
793	Chas. Lambert.	731—18th.	Satisfactory
794	Ada L. Wahlen.	722—18th.	Satisfactory
795	J. B. Wermess.	2122 Wright.	Satisfactory
796	C. W. Sitz.	2126 Wright.	Satisfactory
797	C. L. Everman.	2229 Wright.	Bad
798	L. L. Stevens.	2205 Wright.	Satisfactory
799	Iva Evans.	809—21st.	Satisfactory
800	John Beechler.	812—20th.	Satisfactory
801	B. Schearer.	815—20th.	Satisfactory
802	H. D. Peterson.	800—19th.	Satisfactory
803	C. Hoover.	808—19th.	Satisfactory
804	J. C. Doyle.	815—19th.	Satisfactory
805	F. B. Pettit.	1811 Wright.	Satisfactory
806	S. L. Choen.	1311 Wright.	Satisfactory
807	C. S. Benson.	802—17th.	Satisfactory
808	G. Strahle.	804—17th.	Satisfactory
809	George Ollinger.	814—17th.	Satisfactory
810	J. Mollique.	815—17th.	Satisfactory
811	G. W. Washburn.	805—17th.	Satisfactory
812	H. C. Ridinger.	1615 Wright.	Satisfactory
813	Wm. Correll.	1431 Wright.	Bad
814	L. Foslief.	1425 Wright.	Bad
815	John Rose.	1419 Wright.	Bad
816	L. Geyer.	1415 Wright.	Bad
817	C. I. Zauss.	1409 Wright.	Bad
818	O. Adams.	1401 Wright.	Bad
819	Mary Heil.	1330 Short.	Bad
820	R. B. Scott.	1325 Wright.	Satisfactory
821	Mary Vesh.	1319 Short.	Bad
822	Chas. Wolf.	1313 Wright.	Bad
823	L. Delhane.	1305 Wright.	Bad
824	T. Sandos.	1301 Wright.	Bad
825	Am Koch.	824—14th.	Satisfactory
826	John Jann.	1424 Usher.	Bad
827	M. Boys.	816—16th.	Satisfactory
828	R. A. Miller.	824—16th.	Satisfactory
829	John Sell.	827—17th.	Satisfactory
830	R. F. Wilson.	821—17th.	Satisfactory
831	J. C. Fettig.	822—17th.	Satisfactory
832	T. V. Turnpough.	826—17th.	Satisfactory
833	F. O. Peterson.	822—18th.	Satisfactory
834	A. F. Stoll.	826—19th.	Satisfactory
835	P. K. Keeleny.	831—20th.	Satisfactory
836	W. C. Person.	831—21st.	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
837	Ben Fettig.	2110 Usher.	Satisfactory
838	W. M. Whitted.	23rd & Usher.	Satisfactory
839	F. Rea.	2101 Usher.	Satisfactory
840	Geo. Ellison.	915—21st.	Satisfactory
841	O. S. Gresham.	907—21st.	Bad
842	A. Bauman.	914—20th.	Satisfactory
843	S. D. Hendee.	909—20th.	Satisfactory
844	F. E. Miller.	901—20th.	Satisfactory
845	R. Keiner.	908—912—19th.	Satisfactory
846	C. G. Anderson.	901—19th.	Satisfactory
847	Dan Crida.	900—17th.	Satisfactory
848	Chas. Keppler.	902—16th.	Satisfactory
849	Mrs. E. Fillmore.	914—16th.	Satisfactory
850	Ben Helves.	1429 Usher.	Satisfactory
851	J. P. Welch.	1423 Usher.	Satisfactory
852	L. D. Keener.	1400 Erie.	Satisfactory
853	Chas. J. Jacob.	916—20th.	Satisfactory
854	W. E. Finks.	930—20th.	Bad
855	R. R. Radekey.	931—21st.	Satisfactory
856	F. A. Bender.	927—21st.	Satisfactory
857	C. L. Miller.	22nd & Otto.	Satisfactory
858	Andres Stilsee.	1006—21st.	Satisfactory
859	Mary Turner.	2100 Jefferson.	Satisfactory
860	Eli Dalley.	929—19th.	Satisfactory
861	W. Lowry.	1010—19th.	Satisfactory
862	C. Henson.	1012—19th.	Satisfactory
863	R. R. Briggs.	1011—19th.	Satisfactory
864	W. A. Susburn.	1019—18th.	Satisfactory
865	A. G. Lon.	1023—19th.	Satisfactory
866	Fred Shiele.	1031—19th.	Satisfactory
867	W. J. Gross.	1030—19th.	Satisfactory
868	J. Wanger.	1017—20th.	Satisfactory
869	J. Van Buskirk.	1015—20th.	Bad
870	M. Harper.	1001—20th.	Bad
871	G. A. Sheer.	1000—20th.	Bad
872	O. Wrinerson.	1014—20th.	Bad
873	T. Austin.	1028—20th.	Satisfactory
874	H. A. Radekey.	1030—20th.	Satisfactory
875	W. H. Nushima.	1101—22nd.	Satisfactory
876	George Muller.	2117 Jefferson.	Satisfactory
877	B. Stulz.	1127—21st.	Satisfactory
878	J. Blight.	1126—20th.	Satisfactory
879	Mrs. Joe Kline.	2021 Murdock.	Satisfactory
880	T. Turner.	1129—20th.	Satisfactory
881	John Murphy.	1116—20th.	Satisfactory
882	J. Fries.	1101—20th.	Bad
883	J. I. Brant.	1100—19th.	Satisfactory
884	J. T. Harrison.	1030—19th.	Satisfactory
885	B. O. Naylor.	1024—17th.	Satisfactory
886	Eliz. Schultz.	1000—17th.	Satisfactory
887	Eliz. Benning.	930—17th.	Satisfactory
888	O. Neutzman.	926—17th.	Satisfactory
889	Fettig.	1002—18th.	Satisfactory
890	Mrs. M. Fettig.	1004—18th.	Satisfactory
891	L. Holly.	1010—18th.	Satisfactory
892	Jos. Fettig.	1802 Jefferson.	Satisfactory
893	Ike Myers.	1808 Jefferson.	Satisfactory
894	J. W. Rovers.	1810 Jefferson.	Bad
895	A. L. Lambert.	1814 Jefferson.	Satisfactory
896	E. Williams.	1628 Erie.	Satisfactory
897	J. J. Tussing.	926—16th.	Bad
898	Al. E. Haskett.	920—16th.	Satisfactory
899	Logansport Radiator Co.	1445 Erie.	Satisfactory
900	Sam Marchant.	1429 Erie.	Satisfactory
901	C. E. Cooley.	Erie & 21st.	Satisfactory
902	John Jones.	P. O. Box 303.	Satisfactory
903	J. D. Haas.	2005 Erie.	Bad
904	E. Krecher.	1951 Erie.	Satisfactory
905	E. Gruther.	1921 Erie.	Satisfactory
906	Earl Owens.	1907 Erie.	Satisfactory
907	John W. Elliott.	1849 Erie.	Satisfactory
908	T. H. Ross.	1823 Erie.	Bad
909	Wm. C. Harbert.	1829 Erie.	Bad
910	Roy Griggsby.	1825 Erie.	Satisfactory
911		1815 Erie.	Satisfactory
912		1809 Erie.	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
913	W. Weaver.	1725 Erie	Bad
914	F. C. Rist.	1721 Erie	Bad
915	Walter Slagel.	1719 Erie	Satisfactory
916	Sahra W. Rafter	1713 Erie	Satisfactory
917	John Radky	1529 Erie	Satisfactory
918	J. Kerns	1423 Erie	Satisfactory
919	John Randolph	1421 Erie	Satisfactory
920	A. F. Grove	1407 Erie	Bad
921	S. R. Evans.	1405 Erie	Satisfactory
922	W. W. Myrle	1325 Erie	Satisfactory
923	D. Etnir	1311 Erie	Satisfactory
924	L. Guy	1231 Erie	Satisfactory
925	W. T. Stratford	1027 Erie	Satisfactory
926	Ed. Ausburn.	932 Toledo	Satisfactory
927	R. Blake.	1024 Toledo	Satisfactory
928	S. Matory	1128 Toledo	Satisfactory
929	Mrs. E. Sullivan	1139 Toledo	Satisfactory
930	Guiseppo Persaresi	1228 Toledo	Satisfactory
931	James Martin	1326 Toledo	Bad
932	Ed. Marony	1410 Toledo	Satisfactory
933	G. White.	1432 Toledo	Satisfactory
934	Mrs. N. Amelia	1504 Toledo	Satisfactory
935	D. E. Walters	1512 Toledo	Satisfactory
936	C. Loftus	1532 Toledo	Satisfactory
937	G. L. Righam	1536 Toledo	Satisfactory
938	R. Price	1606 Toledo	Satisfactory
939	Ed. Dickey	1608 Toledo	Satisfactory
940	Lingi Sackini	1620 Toledo	Satisfactory
941	Chas. Waites	1628 Toledo	Bad
942	Nick Smith	1418—17th	Bad
943	M. Jones.	1416—17th	Bad
944	James Rowe	1708 Toledo	Bad
945	A. C. Tofman	1712 Toledo	Bad
946	Vacant.	1716 Toledo	Bad
947	C. G. Bean	1720 Toledo	Bad
948	C. B. Hathaway	1800 Toledo	Satisfactory
949	S. G. Barney	1804 Toledo	Bad
950	Roy Sweet.	1816 Toledo	Bad
951	Mrs. Romey	1836 Toledo	Bad
952	John Banister	1848 Toledo	Bad
953	Arnold Miller	1902 Toledo	Satisfactory
954	M. Hinton	1948 Toledo	Bad
955	M. Diaret	2004 Toledo	Bad
956	Vacant.	1929 Toledo	Satisfactory
957	F. D. Reap	1923 Toledo	Bad
958	Harry Fidler, owner	1921 Toledo	Bad
959	Isaac Shell	1913 Toledo	Bad
960	Wm. Trader	1907 Toledo	Bad
961	E. G. Snok	1905 Toledo	Bad
962	E. Ross	1853 Toledo	Bad
963	Vacant.	1845 Toledo	Bad
964	H. C. Price	1833 Toledo	Satisfactory
965	Delbert White	1825 Toledo	Bad
966	M. Weaver	1823 Toledo	Bad
967	R. S. Miller	1821 Toledo	Satisfactory
968	Jennie Beebe	1805 Toledo	Bad
969	Chas. Weiss	1801 Toledo	Satisfactory
970	J. E. Martin	1717 Toledo	Bad
971	Earnest Fillmore	1705 Toledo	Bad
972	John Tucker	1701 Toledo	Satisfactory
973	Frank Whittaker	1629 Toledo	Bad
974	Salvatore Masche	1308 Toledo	Bad
975	Schaladora Andre	1241 Toledo	Bad
976	Mattie Gates	1233 Toledo	Bad
977	W. Gould	1227 Toledo	Satisfactory
978	Sam Tuck	1221 Toledo	Bad
979	Mary Gibbons	1316—12th	Bad
980	Mrs. Alfred Brush	1135 Toledo	Bad
981	Catherine Berry	1131 Toledo	Satisfactory
982	Mary Reniel	1129 Toledo	Bad
983	James Pierce	1121 Toledo	Bad
984	Pavy Dickey	1115 Toledo	Bad
985	Mrs. E. Cassidy	1109 Toledo	Bad
986	Philip Frisky	1714 Nolton	Bad
987	Thos. Austin	1716 Nolton	Bad
988	Miss Cuppy	1724 Nolton	Bad
989	Floyd Stablr	1728 Nolton	Bad

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
990	Vacant.	1800 Nolton.	Bad
991	Minnie Padduch	1806 Nolton.	Bad
992	Mrs. C. Semina.	1810 Nolton.	Bad
993	John Pucaseen.	1818 Nolton.	Bad
994	Mike Sindy.	1822 Nolton.	Satisfactory
995	Nicholas Cardon.	1900 Nolton.	Bad
996	Jack Loire.	1716—19th.	Bad
997	Abba Emory.	1720—19th.	Bad
998	J. L. Sneider.	1717—19th.	Bad
999	Philip Kafunct.	1816 Stephens.	Bad
1000	Alice Finical.	1810 Stephens.	Bad
1001	Mrs. Jacobs.	1804 Stephens.	Bad
1002		1719—18th.	Bad
1003	Nich Gafoloni.	1725 Knowlton.	Satisfactory
1004	Joe Bliskura.	1721 Knowlton.	Bad
1005	Dominique Busquire.	1715 Knowlton.	Bad
1006	Bodel.	1718 S. 17th.	Satisfactory
1007	Penn. R. R.	Near Yard Office.	Bad
1008	Artificial Ice Co.	Erie & 8th.	Satisfactory
1009	Artificial Ice Co.	Erie & 8th.	Satisfactory
1010	G. W. Weaver.	716 E. Wabash.	Bad
1011	Geo. Stodtler.	608 E. Wabash.	Bad
1012	Rev. W. D. Zeigler.	93 Market.	Satisfactory
1013	Don Gleeson.	320—1st.	Satisfactory
1014	Jas. R. Barnes.	114 Eel River.	Satisfactory
1015	Dr. W. Halloway.	200 Eel River.	Satisfactory
1016	Mrs. M. Schneeberger.	230 Eel River.	Satisfactory
1017	Mrs. R. H. Schaffer.	207—3rd.	Bad
1018	Nick Gedeldorf.	76 E. Melbourne.	Bad
1019	Frank Gill.	82 E. Melbourne.	Satisfactory
1020	Mrs. Mary Becker.	100 E. Melbourne.	Satisfactory
1021	M. D. Demerly.	415 High.	Satisfactory
1022	Vacant.	408 High.	Satisfactory
1023	Tom Regan.	103—6th.	Bad
1024	School House.	6th & Market.	Satisfactory
1025	Dr. J. N. Neff.	514 Market.	Satisfactory
1026	Fred Stone.	5th & North.	Satisfactory
1027	Court House.		Satisfactory
1028	Aldine Flats.	222 Broadway.	Bad
1029	Beaver Estate.	216 Broadway.	Satisfactory
1030	Catholic Priest.	112 Market.	Satisfactory
1031	St. Jos. Catholic School.	130 Market.	Satisfactory
1032	Barnett Hotel.	200 Market.	Satisfactory
1033	Mrs. Krause, owner.	215 Market.	Bad
1034		214 Market.	Satisfactory
1035	Mrs. Mott.	721 N. 6th.	Bad
1036	C. F. Norman.	231 E. Miami.	Satisfactory
1037	G. Landerbock.	211 E. Miami.	Satisfactory
1038	Claris Johnson.		Satisfactory
1039	Fred Coon.	722 N. Pearl.	Bad
1040	Sophia Smith.	716 N. Pearl.	Satisfactory
1041		712 N. Pearl.	Satisfactory
1042	W. H. Smith.	25 E. Miami.	Satisfactory
1043	Barney Free.	17 E. Miami.	Satisfactory
1044	M. Cast e.	714 N. 3rd.	Bad
1045	H. W. Kruck.	23 W. Miami.	Bad
1046	J. R. Schumndman.	105 W. Miami.	Satisfactory
1047	Curtis Brown.	125 W. Miami.	Satisfactory
1048		127 W. Miami.	Bad
1049		139 W. Miami.	Bad
1050	George Powlen.	201 W. Miami.	Satisfactory
1051	E. G. Moran.	215 W. Miami.	Satisfactory
1052	O. E. Geiger.	221 W. Miami.	Bad
1053	Ben Erb.	225 W. Miami.	Satisfactory
1054	Andrew Meiz.	229 W. Miami.	Satisfactory
1055	Mrs. Michael Hooley.	237 W. Miami.	Satisfactory
1056	O. P. Sheron.	301 W. Miami.	Satisfactory
1057	J. W. Weisenberger.	719 Plum.	Bad
1058	J. W. Power.	315 W. Miami.	Satisfactory
1059	Harry Keller.	405 W. Miami.	Satisfactory
1060		413 W. Miami.	Satisfactory
1061	Mrs. Lusher.	427 W. Miami.	Bad
1062	N. O. Morrow.	501 W. Miami.	Bad
1063	Jesse Fensler.	525 W. Miami.	Satisfactory
1064	R. Dickerson.	531 W. Miami.	Satisfactory
1065	A. C. Crose.	619 W. Miami.	Bad

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
1066	Wm. Elfers.	701 W. Miami	Bad
1067	H. R. Everson.	707 W. Miami	Satisfactory
1068	Mrs. I. S. Burmen.	725 W. Miami	Satisfactory
1069	John Minnie.	727 W. Miami	Satisfactory
1070	H. A. Hildebrand.	817 W. Miami	Satisfactory
1071	Thos. Fenrick.	831 W. Miami	Bad
1072	Mrs. Lester Doe.	903 W. Miami	Satisfactory
1073	Paul Cash.	915 W. Miami	Satisfactory
1074	C. C. Arthur.	922 W. Linden	Satisfactory
1075	A. B. Wolf.	830 W. Linden	Satisfactory
1076	T. W. Collins.	824 W. Linden	Satisfactory
1077	H. D. Shereviek.	812 W. Linden	Bad
1078	William Wolf.	716 W. Linden	Satisfactory
1079	C. O. Atkinson.	706 W. Linden	Satisfactory
1080	W. E. Wedgeon.	620 W. Linden	Satisfactory
1081	T. J. Coons.	610 W. Linden	Satisfactory
1082	B. W. Michel.	504 W. Linden	Bad
1083	P. F. Petri.	430 W. Linden	Bad
1084	Otto Zascrka.	422 W. Linden	Satisfactory
1085	Mrs. W. Asmus.	328 W. Linden	Bad
1086	Lewis Ritter.	312 W. Linden	Bad
1087	Thos. Courtney.	306 W. Linden	Satisfactory
1088	Dan Crowe.	300 W. Linden	Satisfactory
1089	A. Helton.	236 W. Linden	Satisfactory
1090	Jesse Etnire.	230 W. Linden	Satisfactory
1091	Arthur Finningan.	228 W. Linden	Bad
1092	Elias Winter.	224 W. Linden	Bad
1093	Mrs. Sarah Reem.	210 W. Linden	Bad
1094	George McMaken.	714 Vine.	Satisfactory
1095	Johnston Batty.	130 W. Linden	Satisfactory
1096	John H. Stephens.	124 W. Linden	Bad
1097	W. A. Eskon.	122 W. Linden	Bad
1098	Almira Groffs.	114 W. Linden	Bad
1099	Wm. Elfers.	100 W. Linden	Satisfactory
1100	F. R. Conkle.	22 W. Linden	Bad
1101	F. W. Taylors.	222 E. Linden	Bad
1102	John Schen.	206 E. Linden	Satisfactory
1103	Chas. Schell.	120 E. Linden	Satisfactory
1104	Gustavis Cassigs.	118 E. Linden	Bad
1105	E. Hallabaugh.	112 E. Linden	Satisfactory
1106	Wm. Hoffe.	106 E. Linden	Satisfactory
1107	H. S. Coats.	100 E. Linden	Satisfactory
1108	F. D. Tam.	26 E. Linden	Bad
1109	Louis Weiser.	16 E. Linden	Bad
1110	J. C. Rheim.	710 N. 3rd.	Bad
1111	J. C. Raywald.	10 W. Linden	Satisfactory
1112	Thos. Savage.	12 W. Linden	Bad
1113	W. F. Bugby.	101 W. Linden	Bad
1114	Thos. Flinn.	121 W. Linden	Satisfactory
1115	Walter Saylor.	133 W. Linden	Bad
1116	Carl Hilton.	203 W. Linden	Satisfactory
1117	H. M. Clark.	217 W. Linden	Bad
1118	Mrs. Wilson Hardy.	207 W. Linden	Satisfactory
1119	Wm. C. Cassady.	225 W. Linden	Satisfactory
1120	Chas. Cowder.	229 W. Linden	Bad
1121	R. H. Conn.	301 W. Linden	Satisfactory
1122	John Nichol.	309 W. Linden	Bad
1123	Willard Burgess.	315 W. Linden	Bad
1124	C. E. Linley.	321 W. Linden	Bad
1125	Thos. Miller.	329 W. Linden	Satisfactory
1126	L. R. Muzzy.	331 W. Linden	Satisfactory
1127	Jas. Beemer.	401 W. Linden	Bad
1128	Henry Frosch.	415 W. Linden	Bad
1129	J. J. Romell.	423 W. Linden	Satisfactory
1130	J. C. Hubbs.	425 W. Linden	Satisfactory
1131	S. N. O'Monon.	501 W. Linden	Bad
1132	C. H. Sells.	511 W. Linden	Satisfactory
1133	F. L. Buckingham.	519 W. Linden	Bad
1134	George Richeson.	523 W. Linden	Satisfactory
1135	O. N. Smith.	601 W. Linden	Bad
1136	P. T. Hendricks.	619 W. Linden	Satisfactory
1137	Jesse Smith.	615 Wilkinson.	Satisfactory
1138	Chas. J. Roppman.	625 Wilkinson.	Bad
1139	Y. W. Noble.	829 W. Linden	Satisfactory
1140	N. T. Snow.	839 W. Linden	Satisfactory
1141	A. Smith.	125 E. Linden.	Satisfactory.

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
1142	A. D. Orr.	129 E. Linden.	Satisfactory
1143	J. L. Sanderson.	109 E. Linden.	Satisfactory
1144	Henry Dwinnup.	33 E. Linden.	Satisfactory
1145	Mr. Murdock, owner.	10 Wheatland.	Satisfactory
1146	J. Burket.	18 Wheatland.	Satisfactory
1147	O. H. Wagner.	24 Wheatland.	Bad
1148	Lewis Ray.	Wheatland.	Bad
1149	George A. Gerder.	130 Wheatland.	Satisfactory
1150	W. F. Bowman.	134 Wheatland.	Satisfactory
1151	Lew Porter.	140 Wheatland.	Satisfactory
1152	Otto Meyer.	206 Wheatland.	Satisfactory
1153	F. R. Charles.	218 Wheatland.	Satisfactory
1154	J. W. Clem.	222 Wheatland.	Satisfactory
1155	Ed. Leonard.	228 Wheatland.	Satisfactory
1156	Mrs. Linlay.	236 Wheatland.	Bad
1157	John Leonard.	300 Wheatland.	Satisfactory
1158	Chas. Henry.	306 Wheatland.	Satisfactory
1159	C. A. Hammer.	316 Wheatland.	Bad
1160	Mrs. C. L. Michael.	324 Wheatland.	Bad
1161	John F. Badder.	326 Wheatland.	Bad
1162	H. K. Orwin.	338 Wheatland.	Bad
1163	Chas. E. Livingstone.	342 Wheatland.	Bad
1164	J. L. McMacken.	608 Brown.	Bad
1165	Mrs. M. Callan.	418 Wheatland.	Bad
1166	Rev. E. C. Dunn.	608 Barrow.	Satisfactory
1167	R. Czech.	500 Wheatland.	Satisfactory
1168	A. D. Dietrich.	506 Wheatland.	Bad
1169	N. W. Mullikan.	518 Wheatland.	Bad
1170	C. S. Wendling.	522 Wheatland.	Bad
1171	A. W. Gamble.	530 Wheatland.	Bad
1172	Chas. Longwell.	616 Wheatland.	Satisfactory
1173	Rev. P. J. Quinn.	700 Wheatland.	Satisfactory
1174	St. Bridget's School.	Wheatland.	Satisfactory
1175	L. W. Cahle.	609 Wilkinson.	Satisfactory
1176	H. Fisher.	601 Wilkinson.	Satisfactory
1177	B. L. Graham.	816 Wheatland.	Satisfactory
1178	L. M. Baker.	820 Wheatland.	Satisfactory
1179	Albert Cassube.	828 Wheatland.	Satisfactory
1180	J. L. Shanerod.	900 Wheatland.	Satisfactory
1181	Public Well.	Wheatland.	Satisfactory
1182	John Guthrie.	272 Wheatland.	Satisfactory
1183	J. H. Novinger.	215 Wheatland.	Bad
1184	H. K. Ruck.	217 Wheatland.	Bad
1185	Mrs. N. M. Leslie.	337 Wheatland.	Satisfactory
1186	Mrs. M. Schnitz.	313 Wheatland.	Satisfactory
1187	B. Simple.	321 Wheatland.	Satisfactory
1188	J. H. Hass.	331 Wheatland.	Satisfactory
1189	Wm. Walt.	333 Wheatland.	Satisfactory
1190	L. W. Strong.	337 Wheatland.	Bad
1191	Arthur Newsbaum.	343 Wheatland.	Bad
1192	W. E. Kirkpatrick.	523 Brown.	Bad
1193	Mrs. M. Bonty.	431 Wheatland.	Bad
1194	W. A. Flanagan.	501 Wheatland.	Satisfactory
1195	Frank Schrader.	509 Wheatland.	Bad
1196	D. D. Donham.	515 Wheatland.	Bad
1197	A. L. Gordon.	517 Wheatland.	Satisfactory
1198	M. Gultz.	523 Wheatland.	Bad
1199	M. J. Darrea.	531 Wheatland.	Bad
1200	Al Eagan.	Wheatland.	Satisfactory
1201	A. S. Boyer.	613 Wheatland.	Satisfactory
1202	Mrs. Hand.	715 Wheatland.	Satisfactory
1203	H. Roberts.	801 Wheatland.	Satisfactory
1204	Wm. Gordon, owner.	919 Wheatland.	Satisfactory
1205	F. W. Kinney.	922 Wheatland.	Satisfactory
1206	Earl Hammliton.	916 Wheatland.	Satisfactory
1207	H. R. Morris.	912 Wheatland.	Satisfactory
1208	Sam Laslo.	1110 Wheatland.	Bad
1209	John I. Kennedy.	1137 Wheatland.	Bad
1210	Rutenber Motor Co.	899 Adams.	Satisfactory
1211	A. Bergman.	616 Adams.	Satisfactory
1212	B. Rackets.	620 Adams.	Satisfactory
1213	Chas. Roach.	625 Park.	Satisfactory
1214	J. Bucher.	1136 W. Linden.	Satisfactory
1215	Harry Fairchilds.	826 W. Broadway.	Satisfactory
1216	C. E. Lurch.	806 W. Broadway.	Bad
1217	M. Wermes.	800 W. Broadway.	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
1218	W. J. Knight.	712 W. Broadway.	Bad
1219	H. D. Plank.	700 W. Broadway.	Satisfactory
1220	A. H. Holtzen.	606 W. Broadway.	Satisfactory
1221	S. E. Shideler.	600 W. Broadway.	Satisfactory
1222	E. Fohrer.	530 W. Broadway.	Satisfactory
1223	A. Wirth.	516 W. Broadway.	Bad
1224	E. T. Parker.	512 W. Broadway.	Satisfactory
1225	Lewis Smith.	506 W. Broadway.	Satisfactory
1226	H. Bethke.	424 W. Broadway.	Satisfactory
1227	John R. Moore.	422 W. Broadway.	Bad
1228	H. M. Melton.	410 W. Broadway.	Satisfactory
1229	T. Girtlen.	400 W. Broadway.	Satisfactory
1230	K. Leffert.	306 W. Broadway.	Bad
1231	E. B. Daley.	346 W. Broadway.	Satisfactory
1232	George Crawshaw.	344 W. Broadway.	Satisfactory
1233	Mrs. A. Kearney.	336 W. Broadway.	Bad
1234	Dr. F. M. Bowser.	332 W. Broadway.	Satisfactory
1235	E. F. Dock.	318 W. Broadway.	Satisfactory
1236	S. Keever.	310 W. Broadway.	Satisfactory
1237	Chas. Barnes.	600 Front.	Satisfactory
1238	Mrs. E. Marshall.	355 W. Broadway.	Bad
1239	J. W. Lefel.	363 W. Broadway.	Bad
1240	Mrs. L. Meyer.	214 W. Broadway.	Satisfactory
1241	L. A. Smith.	425 W. Broadway.	Bad
1242	L. O. Crawford.	423 W. Broadway.	Bad
1243	Mrs. A. Remn.	418 Brown.	Bad
1244	Mrs. A. Callahan.	501 W. Broadway.	Bad
1245	Farrell.	517 W. Broadway.	Satisfactory
1246	L. Heiden.	527 W. Broadway.	Satisfactory
1247	B. A. Kroeger.	607 W. Broadway.	Satisfactory
1248	J. G. Frye.	613 W. Broadway.	Satisfactory
1249	L. Hughes.	709 W. Broadway.	Satisfactory
1250	P. B. Frush.	713 W. Broadway.	Satisfactory
1251	J. Vernon.	717 W. Broadway.	Satisfactory
1252	J. R. Hazeltine.	723 W. Broadway.	Bad
1253	Mrs. S. Shortridge.	409 Wilkinson.	Bad
1254	Fred Wagner.	405 Wilkinson.	Satisfactory
1255	J. B. Stranahan.	722 W. Market.	Satisfactory
1256	F. J. Carter.	718 W. Market.	Satisfactory
1257	S. Parker.	714 W. Market.	Satisfactory
1258	J. B. Larway.	700 W. Market.	Satisfactory
1259	C. E. Bennett.	414 Heath.	Bad
1260	E. K. Linquist.	616 W. Market.	Satisfactory
1261	H. R. Cummings.	614 W. Market.	Satisfactory
1262	Rose A. Stricker.	516 W. Market.	Bad
1263	Mrs. M. Carl.	510 W. Market.	Bad
1264	J. T. Stewart.	500 W. Market.	Bad
1265	George Lucie.	W. Market.	Satisfactory
1266	Mrs. A. Long.	414 Brown.	Bad
1267	H. Puerbaugh.	415 Brown.	Satisfactory
1268	Margaret Lineman.	316 W. Market.	Satisfactory
1269	Otton Stelzer.	410 Front.	Satisfactory
1270	C. Baker.	428 Front.	Satisfactory
1271	M. Powell.	502 Front.	Bad
1272	Wm. Berger.	313 W. Market.	Satisfactory
1273	H. T. Wright.	317 W. Market.	Satisfactory
1274	Chas. Breckenridge.	204 W. Market.	Bad
1275	J. Stultz.	411 W. Market.	Bad
1276	Fred Davis.	419 W. Market.	Satisfactory
1277	G. E. Pittman.	427 W. Market.	Satisfactory
1278	Mrs. E. Eagenbeck.	500 W. Market.	Satisfactory
1279	J. G. Snider.	517 W. Market.	Satisfactory
1280	George Baker.	607 W. Market.	Satisfactory
1281	Frank Kienly.	611 W. Market.	Satisfactory
1282	A. C. Gleitz.	619 W. Market.	Bad
1283	O. Schubach.	701 W. Market.	Bad
1284	Sol Hanke.	707 W. Market.	Satisfactory
1285	D. A. Hipman.	717 W. Market.	Bad
1286	W. P. Prichert.	309 Wilkinson.	Satisfactory
1287	Mrs. Clara Kelly.	801 W. Market.	Bad
1288	J. F. Shuman.	817 W. Market.	Bad
1289	O. N. Demuse.	816 W. Melbourne.	Bad
1290	W. C. Smith.	822 Melbourne.	Bad
1291	A. Parnett.	836 W. Melbourne.	Satisfactory
1292	E. Fromwell.	835 W. Market.	Satisfactory
1293	M. Shedell.	831 W. Market.	Bad

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
1294	J. J. Bruck.	900 W. Melbourne.	Bad
1295	Mrs. E. Cory.	910 W. Melbourne.	Bad
1296	M. Chapman.	18 W. Melbourne.	Bad
1297	Ed. Gorman.	924 W. Melbourne.	Satisfactory
1298	G. H. Ewell.	1110 W. Melbourne.	Satisfactory
1299	Jos. Barr.	1112 W. Melbourne.	Satisfactory
1300	L. May.	1212 W. Melbourne.	Satisfactory
1301	G. O. Hopkins.	1306 W. Melbourne.	Bad
1302	J. S. Davis.	W. Market.	Satisfactory
1303	C. Huffman.	1105 W. Market.	Satisfactory
1304	J. A. Nash.	1010 W. Melbourne.	Satisfactory
1305	Jos. Meyers.	1000 W. Market.	Bad
1306	W. C. Dunn.	930 W. Market.	Satisfactory
1307	R. Deboo.	315 C. St.	Satisfactory
1308	Sam Cromwell.	931 W. Market.	Satisfactory
1309	Frank Hager.	311 W. Market.	Satisfactory
1310	H. M. Willard.	907 W. Market.	Satisfactory
1311	M. H. Welch.	724 W. Melbourne.	Satisfactory
1312	Mrs. P. Johnson.	716 Melbourne.	Satisfactory
1313	R. C. Phipps.	312 Cicott.	Satisfactory
1314	W. O. Moore.	W. Melbourne.	Bad
1315	Mrs. A. J. Lucks.	312 Barron.	Bad
1316	B. Stone.	418 W. Melbourne.	Satisfactory
1317	W. C. Schmidt.	414 W. Melbourne.	Bad
1318	W. A. Kemp.	406 W. Melbourne.	Satisfactory
1319	J. and F. Uhl.	400 W. Melbourne.	Satisfactory
1320	E. T. Miles.	321 Front.	Satisfactory
1321	G. Gurnup.	413 W. Melbourne.	Satisfactory
1322	L. L. Fultz.	423 W. Melbourne.	Satisfactory
1323	Rockmeyer.	429 W. Melbourne.	Satisfactory
1324	Mrs. Geo. Hershauer.	W. Melbourne.	Satisfactory
1325	P. J. Studebaker.	517 W. Melbourne.	Satisfactory
1326	J. B. Sowers.	525 W. Melbourne.	Bad
1327	A. D. Canode.	217 N. Cicotte.	Satisfactory
1328	Margaret Banz.	225 N. Cicotte.	Satisfactory
1329	A. J. Updegrat.	231 N. Cicotte.	Satisfactory
1330	J. H. Powers.	617 W. Melbourne.	Satisfactory
1331	Ed. Shafer.	709 W. Melbourne.	Satisfactory
1332	G. Smith.	715 W. Melbourne.	Satisfactory
1333	T. McCormack.	805 W. Melbourne.	Satisfactory
1334	Mrs. Heizman.	827 W. Melbourne.	Satisfactory
1335	A. Colb.	992 W. Melbourne.	Satisfactory
1336	Mrs. B. C. Baker.	931 W. Melbourne.	Satisfactory
1337	Frank McGrew.	139 Park.	Satisfactory
1338	J. Peyton.	926 Helmott.	Satisfactory
1339	C. R. Allison.	902 Helmott.	Satisfactory
1340	W. F. Douglas.	832 Helmott.	Bad
1341	D. V. Hileman.	820 Helmott.	Bad
1342	C. McIntire.	800 Helmott.	Bad
1343	J. W. Buzzard.	716 Helmott.	Satisfactory
1344	A. Mutchler.	710 Helmott.	Satisfactory
1345	F. M. Berger.	700 Helmott.	Satisfactory
1346	R. B. McCain.	618 Helmott.	Satisfactory
1347	Kain.	610 Helmott.	Satisfactory
1348	D. R. Bennett.	207 Cicotte.	Satisfactory
1349	E. G. Schneider.	204 Cicotte.	Satisfactory
1350	L. Schurman.	516 Helm.	Satisfactory
1351	M. Coughlin.	Helm.	Satisfactory
1352	J. H. Beady.	510 Helm.	Satisfactory
1353	J. Frye.	500 Helm.	Satisfactory
1354	W. Frober.	430 Helm.	Satisfactory
1355	Henry Almer.	426 Helm.	Bad
1356	Frank Clary.	420 Helm.	Satisfactory
1357	F. Clary, owner.	414 Helm.	Bad
1358	Harry Uhl, owner.	410 Helm.	Bad
1359	G. W. Crozier.	431 Helm.	Satisfactory
1360	A. D. Burns.	515 Helm.	Satisfactory
1361	Bridge.	Wabash Ave.	Satisfactory
1362	C. H. Berger.	603 Helm.	Satisfactory
1363	E. Packerly.	611 Helm.	Satisfactory
1364	J. H. Boerger.	721 Helm.	Satisfactory
1365	Chas. Duckman.	805 Helm.	Satisfactory
1366	J. S. Thomas.	815 Helm.	Satisfactory
1367	A. L. Whallon.	819 Helm.	Satisfactory
1368	C. E. Mitchell.	823 Helm.	Satisfactory
1369	George Southam.	827 Helm.	Bad

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
1370	J. S. Taylor	837 Helm	Bad
1371	O. L. Berry	901 Helm	Satisfactory
1372	M. F. Waitland	915 Helm	Satisfactory
1373	M. Watts	921 Helm	Bad
1374	H. C. Ozor	925 Helm	Bad
1375	F. Wagner	931 Helm	Satisfactory
1376	Joe. Coin	Helm	Satisfactory
1377	A. Grace	1003 Helm	Satisfactory
1378	A. Leaman	125 Park	Bad
1379	Ora Taylor	1113 Helm	Satisfactory
1380	J. Hipser	1117 Helm	Satisfactory
1381	G. R. Pittman	800 Wabash	Satisfactory
1382	George Barley	812 Wabash	Satisfactory
1383	Chas. Ray	816 Wabash	Satisfactory
1384	Wm. Kobalt	818 Wabash	Satisfactory
1385	M. Downey	828 Wabash	Bad
1386	A. M. Reed	900 E. Wabash	Satisfactory
1387	H. J. Stukan	916 W. Wabash	Satisfactory
1388	E. F. Black	930 W. Wabash	Bad
1389	A. O. Fisher	1006 W. Wabash	Bad
1390	G. G. Barry	1100 W. Wabash	Satisfactory
1391	Jas. Benner	1208 W. Wabash	Satisfactory
1392	Peter Keller	1304 W. Wabash	Satisfactory
1393	A. W. Hardy	Outside of c ty. 1400 Wabash	Bad
1394	G. E. Moore	Outside of city, West-ern Ave.	Bad
1395	Wm. Bartley	123 Lockwood	Bad
1396	Nora Cordell	125 Lockwood	Satisfactory
1397	T. Masters	Lockwood & Helm	Satisfactory
1398	E. J. Smith	101 Lockwood	Satisfactory
1399	Doc. Simmons	129 Sebolt	Satisfactory
1400	Wm. Morman	113 Sebolt	Bad
1401	J. Dumean	109 Sebolt	Bad
1402	Frank Banner	101 Sebolt	Bad
1403	John Dunn	43 Sebolt	Bad
1404	C. N. Strasser	156 Sebolt	Bad
1405	Frank Hahn	25 Sebolt	Bad
1406	C. Moore	110 Sebolt	Bad
1407	Frank Snyder	112 Sebolt	Bad
1408	J. B. Moore	113 Park	Bad
1409	Chas. Singer	109 Park	Bad
1410	George Rice	104 Park	Bad
1411	Chas. Baren	35 Park	Bad
1412	T. M. Kramer	23 Park	Bad
1413	Mrs. M. A. Reed	18 Park	Bad
1414	H. Stanley	33 D. St.	Bad
1415	F. C. Waldsmith	35 D. St.	Bad
1416	Walter J. Shoeman	934 State	Satisfactory
1417	George Wiggin	926 State	Bad
1418	M. A. Cornell	916 State	Bad
1419	J. E. Mace	908 State	Bad
1420	J. A. Welner	900 State	Bad
1421	Mary Dwyer	840 State	Satisfactory
1422	P. Murphy	838 State	Satisfactory
1423	F. M. Price	826 State	Satisfactory
1424	H. A. Smith	816 State	Satisfactory
1425	T. H. Davis	806 State	Satisfactory
1426		800 State	Satisfactory
1427	Mary Walker	726 State	Satisfactory
1428	C. E. Thomas	714 State	Satisfactory
1429	John Coon	710 State	Satisfactory
1430	Henry Weber	801 State	Satisfactory
1431	Alex Reed	823 State	Satisfactory
1432	Oscar Brant	827 State	Satisfactory
1433	Harry Bowen	839 State	Satisfactory
1434	T. W. Stoltz	843 State	Satisfactory
1435	John Barter	901 State	Satisfactory
1436	Frank Minick	909 State	Satisfactory
1437	John Simmons	915 State	Satisfactory
1438	J. W. Davison	919 State	Satisfactory
1439	S. A. Hammonds	927 State	Satisfactory
1440	O. O. Garland	931 State	Bad
1441	D. Dennehy	922 W. Miami	Satisfactory
1442	H. M. Kaplinger	916 W. Miami	Satisfactory
1443	D. F. Roof	908 W. Miami	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water
1444	D. Hilderbrant.	828 W. Miami.	Satisfactory
1445	J. F. Pottmeyer	814 W. Miami.	Satisfactory
1446	Jas. Wilburn	801 Wilkinson.	Bad
1447	W. Warner	809 Wilkinson.	Bad
1448	Frank Davis	722 W. Miami.	Satisfactory
1449	Henry Wiley		Satisfactory
1450	Mary Gilsinger.	710 W. Miami.	Satisfactory
1451	Fred Raybolt.	707 N. 3rd.	Satisfactory
1452	Mustla.	534 W. Miami.	Satisfactory
1453	Wm. Kier	532 W. Miami.	Bad
1454	D. Nolton.		Satisfactory
1455	G. A. Walt	510 W. Miami.	Satisfactory
1456	J. C. Ryan	500 W. Miami.	Bad
1457	R. A. Windsor.	420 W. Miami.	Satisfactory
1458	W. I. Brown	416 W. Miami.	Satisfactory
1459	H. O. Packard.	414 W. Miami.	Satisfactory
1460	C. B. Steppey	410 W. Miami.	Satisfactory
1461	Franklin School	Plum & Miami	Satisfactory
1462	Bert Lines	228 W. Miami.	Satisfactory
1463	Mrs. John Parker	224 W. Miami.	Satisfactory
1464	N. Kline	218 W. Miami.	Satisfactory
1465	V. S. Hattery	212 W. Miami.	Satisfactory
1466	M. T. Anderson	208 W. Miami.	Bad
1467	A. M. Flanigan.	204 W. Miami.	Satisfactory
1468	Chas. Fohror	200 W. Miami.	Satisfactory
1469	Henry Leport.	136 W. Miami.	Satisfactory
1470	Chas. M. Webster.	130 W. Miami.	Satisfactory
1471	F. W. Klein.	124 W. Miami.	Satisfactory
1472	John Wood	120 W. Miami.	Satisfactory
1473	Chas. Whitemeyer.	114 W. Miami.	Satisfactory
1474	F. W. Whitemeyer.	106 W. Miami.	Satisfactory
1475	D. J. Calvert.	104 W. Miami.	Satisfactory
1476	Mrs. Robert Ray.	18 W. Miami.	Satisfactory
1477	D. W. Fowler.	14 W. Miami.	Satisfactory
1478	W. S. Stanaker.	16 E. Miami.	Satisfactory
1479	G. E. Marshall.	26 E. Miami.	Satisfactory
1480	J. W. Clary.	810 N. Pearl.	Bad
1481	John Walling.	100 E. Miami.	Satisfactory
1482	J. J. Wagner	118 E. Miami.	Satisfactory
1483	W. L. Lorer.	122 E. Miami.	Satisfactory
1484	Wm. Carr.	208 E. Miami.	Satisfactory
1485	Vacant.	218 E. Miami.	Satisfactory
1486	John Rhinehart.	306 E. Miami.	Bad
1487	Mrs. E. Morarity	805 N. 6th.	Satisfactory
1488	Geo. Westeweller.	221 E. Ottawa.	Satisfactory
1489	Fred Popeeski	209 E. Ottawa.	Satisfactory
1490	Warren Harvey	816 N. Pearl.	Bad
1491	J. W. Newman.	11 E. Ottawa.	Satisfactory
1492	D. Hickman	818 N. 3rd.	Bad
1493	H. S. Walkers	821 N. 3rd.	Satisfactory
1494	Vergi Bishop	507 E. Ottawa.	Satisfactory
1495	A. Grey.	13 Ottawa.	Satisfactory
1496	J. A. Warner	101 W. Ottawa.	Satisfactory
1497	C. Grainer	109 W. Ottawa.	Bad
1498	Alice Meek	115 W. Ottawa.	Bad
1499	M. R. Hamilton.	121 W. Ottawa.	Satisfactory
1500	John R. Scott.	127 W. Ottawa.	Satisfactory
1501	A. S. Dewald.	133 W. Ottawa.	Bad
1502	W. Bundy	135 W. Ottawa.	Satisfactory
1503	Mrs. Cox	201 W. Ottawa.	Satisfactory
1504	M. D. Walsh	207 W. Ottawa.	Bad
1505	L. M. Mantell	211 W. Ottawa.	Satisfactory
1506	C. K. Koppe	217 W. Ottawa.	Satisfactory
1507	C. A. Emerick	230 W. Ottawa.	Satisfactory
1508	H. J. Prosch	235 W. Ottawa.	Satisfactory
1509	S. A. Collett	427 Bates	Satisfactory
1510	J. Petrig.	433 Bates	Bad
1511	F. Schwering	437 Bates	Bad
1512	John Black	501 Bates	Satisfactory
1513	Plummers Sanitarium.	701 Bates	Satisfactory
1514	A. B. Wellton	311 Bates	Satisfactory
1515	F. A. Duncan.	819 Bates	Satisfactory
1516	John Gipson	823 Bates	Satisfactory
1517	Noble Dixon.	831 Bates	Satisfactory
1518	L. Heckart	911 Bates	Satisfactory
1519	E. L. Ausburn	910 Bates	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
1520	Mr. Horner	718 Bates	Satisfactory
1521	Thos. Turner	901 N. 6th	Satisfactory
1522	E. H. Lux	22 E. Ottawa	Bad
1523	Ed. Hagenback	904 N. 3rd	Satisfactory
1524	Frank Motter	910 N. 3rd	Satisfactory
1525	W. H. Hays	907 N. 3rd	Satisfactory
1526	C. B. Pursell	16 E. Ottawa	Satisfactory
1527	Vacant—B. F. Long (owner)	22 E. Ottawa	Bad
1528	James Reed	100 E. Ottawa	Bad
1529	M. A. Zider	106 W. Ottawa	Satisfactory
1530	H. Geiger	130 W. Ottawa	Bad
1531	Mrs. Margaret Camel	204 W. Ottawa	Satisfactory
1532	D. Sinn	206 W. Ottawa	Satisfactory
1533	W. F. Fiddler	214 N. Ottawa	Satisfactory
1534	R. Townsend	224 W. Ottawa	Satisfactory
1535	George W. Moon	230 W. Ottawa	Bad
1536	F. R. Wilkins	412 W. Ottawa	Satisfactory
1537	H. W. Silverman	424 W. Ottawa	Satisfactory
1538	Scantlin	428 W. Ottawa	Satisfactory
1539	James Smith	442 W. Ottawa	Satisfactory
1540	Mrs. A. Koppe	510 W. Ottawa	Satisfactory
1541	W. E. Richey	514 Bates	Satisfactory
1542	H. J. Wolf	528 Bates	Satisfactory
1543	G. Wolf	538 Bates	Satisfactory
1544	W. H. Harrison	602 Bates	Bad
1545	Mr. Fisher	610 Bates	Satisfactory
1546	George Wade	618 Bates	Bad
1547	S. T. Call	700 Bates	Satisfactory
1548	B. M. Shaw	710 Bates	Bad
1549	K. Collier	729 Washington	Satisfactory
1550	Eli Rector	727 Washington	Satisfactory
1551	Miles Shaw	723 Washington	Satisfactory
1552	Wm. Garigan	717 Washington	Satisfactory
1553	M. Stadder	623 Washington	Satisfactory
1554	Fred Petrich	619 Washington	Satisfactory
1555	Eliz. Summer	611 Washington	Satisfactory
1556	E. Smith	603 Washington	Bad
1557	L. Bigsby	529 Washington	Satisfactory
1558	James Conway	525 Washington	Satisfactory
1559	J. H. Applegate	519 Washington	Satisfactory
1560	H. Demske	510 Washington	Satisfactory
1561	H. N. Doolittle	449 Washington	Satisfactory
1562	Mrs. P. Hosey	447 Washington	Satisfactory
1563	R. F. Briton	443 Washington	Satisfactory
1564	W. C. Radwald	429 Washington	Satisfactory
1565	Frank Lowe	423 Washington	Bad
1566	A. M. Taylor	415 Washington	Bad
1567	Anna Relay	411 Washington	Satisfactory
1568	Mr. Clark	905 Plum	Bad
1569	A. M. Warner	137 Tacoma	Satisfactory
1570	Chas. Figley	916 Vandalla	Satisfactory
1571	A. Zimmerman	118 Tacoma	Satisfactory
1572	G. O. Lewis	200 Tacoma	Satisfactory
1573	Mrs. C. Koppe	406 Washington	Satisfactory
1574	K. Driscoll	410 Washington	Satisfactory
1575	J. C. Sullivan	434 Wash'gton	Satisfactory
1576	A. Cone	504 Washington	Satisfactory
1577	L. Britton	510 Washington	Satisfactory
1578	S. McClarns	514 Washington	Satisfactory
1579	J. M. Sexton	516 Washington	Satisfactory
1580	W. T. Smith	530 Washington	Satisfactory
1581	C. Elerbo	407 Tacoma	Satisfactory
1582	M. Fitzgerald	419 Tacoma	Bad
1583	M. N. Murphy	425 Tacoma	Satisfactory
1584	L. J. Courtney	532 Tacoma	Satisfactory
1585	F. Smith	500 Tacoma	Satisfactory
1586	Frank Jackson	440 Tacoma	Bad
1587	D. Fogerty	428 Tacoma	Bad
1588	Claude Bennett	424 Tacoma	Bad
1589	M. Bower	420 Tacoma	Bad
1590	Ernest Hock	416 Tacoma	Satisfactory
1591	Mrs. Wm. Moon	412 Tacoma	Bad
1592	E. Kimberling	406 Tacoma	Bad
1593	C. A. Peterson	400 Tacoma	Bad
1594	Hill	536 Tacoma	Bad
1595	B. A. Goltry	604 Washington	Bad

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
1596	Joe Magisk.	614 Washington.	Bad
1597	J. Guy.	626 Washington.	Bad
1598	Wm. Ingoal.	1022 Woodland.	Bad
1599	Kent Lurch.	1026 Woodland.	Bad
1600	James Wyitt.	1030 Woodland.	Bad
1601	R. Grubb.	1029 Woodland.	Bad
1602	J. M. Stout.	1023 Woodland.	Satisfactory
1603	Mr. Garrick.	1619 Woodland.	Satisfactory
1604	F. D. Merrill.	716 Washington.	Bad
1605	A. Gaby.	718 Washington.	Bad
1606	M. Peinski.	724 Washington.	Bad
1607		730 Washington.	Bad
1608	Lawrence Williams.	1016 Garden.	Bad
1609	E. L. Kile.	1024 Garden.	Bad
1610	M. Rice.	1026 Garden.	Bad
1611	Jolmer Vitello.	914 Zala.	Bad
1612	W. M. Jones.	918 Zala.	Bad
1613	E. Racer.	1013 Daisy.	Satisfactory
1614	Jessie James.	1020 Daisy.	Satisfactory
1615	George Burns.	1014 Daisy.	Satisfactory
1616	H. A. Labounty.	1311 Canty.	Satisfactory
1617	Wm. Callaway.	1313 Canty.	Satisfactory
1618	Ed. Durham.	1317 Canty.	Satisfactory
1619	John Farmer.	1321 Canty.	Satisfactory
1620	Roy Nulf.	Pink.	Satisfactory
1621	A. E. Rhea.	1030 Pink.	Satisfactory
1622	N. Mohler.	1024 Pink.	Satisfactory
1623	S. Lanklin.	900 Pink.	Satisfactory
1624	Vacant—H. Clausen (owner).	1407 Lobelia.	Bad
1625	H. A. Herald.	1411 Lobelia.	Satisfactory
1626	F. Kowski.	1419 Lobelia.	Bad
1627	Joe Thompson.	1423 Lobelia.	Bad
1628	K. Camie.	Water.	Bad
1629	L. A. Androse.	1402 Bolsome.	Satisfactory
1630	D. A. Weaver.	1330 Bolsome.	Bad
1631	L. Wade.	1305 Bolsome.	Satisfactory
1632	J. Rose.	810 Daisy.	Satisfactory
1633	Mrs. P. Skomski.	1319 Lobelia.	Satisfactory
1634	F. A. Johnson.	1311 Lobelia.	Satisfactory
1635	J. K. Rollins.	1307 Lobelia.	Satisfactory
1636	Bert Haynes.	819 Daisy.	Satisfactory
1637	A. Tishock.	707 Daisy.	Satisfactory
1638	W. L. Fernold.	Kalsack.	Satisfactory
1639	Vandalia Yards.		Satisfactory
1640	W. Conrad.	Rural Route.	Bad
1641	G. Smith.	423 Hanna.	Satisfactory
1642	L. F. Slater.	918 N. 6th.	Satisfactory
1643	J. D. McMillian.	911 N. 6th.	Satisfactory
1644	Otto Grant.	910 Willa.	Bad
1645	Vorhees & Son.	North Thrd.	Bad
1646	W. F. Grener.	17 W. Richardville.	Satisfactory
1647	H. A. Brown.	111 N. Thrd.	Bad
1648	C. C. Beaver.	363 N. Thrd.	Bad
1649	George Albert.	1211 Ash.	Satisfactory
1650	Chas. Ray.	1227 Ash.	Satisfactory
1651	G. W. Hunter.	1217 Ash.	Satisfactory
1652	F. Goltree.	1210 College.	Satisfactory
1653	R. L. Rummell.	1216 Ash.	Satisfactory
1654	J. A. Smith.	20 Richardville.	Satisfactory
1655	Wm. Clarey.	1211 N. Thrd.	Satisfactory
1656	Carl Schoenrad.	1210 N. Thrd.	Satisfactory
1657	V. C. Wright.	16 Richardville.	Satisfactory
1658	J. A. Kuhn.	27 E. Columbia.	Satisfactory
1659	Fred Harnish.	1017 N. Sixth.	Satisfactory
1660	Ed. Tutton.	324 Hanna.	Bad
1661	L. P. Rheinhart.	410 Hanna.	Satisfactory
1662	C. A. South.	416 Hanna.	Satisfactory
1663	F. McCartney.	422 Hanna.	Bad
1664	E. C. Richardson.	1025 Pleasant.	Satisfactory
1665	Vacant.	415 Henry.	Bad
1666	Harry Seybold.	1101 Pleasant Hill.	Satisfactory
1667	George A. Linton.	1127 Pleasant Hill.	Satisfactory
1668	Vacant.	1129 Pleasant Hill.	Satisfactory
1669	C. F. Schaeffer.	1133 Pleasant Hill.	Satisfactory
1670	G. A. Schaffer.	402 Henry.	Satisfactory
1671	H. D. Schaeffer.	256 E. Columbia.	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
1672	August Steinmetz	236 E. Columbia	Satisfactory
1673	Andy Wirwand	218 E. Columbia	Satisfactory
1674	Wm. Richter	1310 Mary	Satisfactory
1675	G. F. Wheatley	1318 Mary	Satisfactory
1676	J. R. Brummer	1311 Mary	Satisfactory
1677	R. R. Kuhn	1307 Mary	Satisfactory
1678	E. L. Harrison	1310 Peter	Satisfactory
1679	Columbia School	Peter & Columbia	Bad
1680	E. L. Cochran	1306 N. Third	Satisfactory
1681	Henry Burdis	17 Columbia	Satisfactory
1682	D. M. Cottoner	21 W. Columbia	Satisfactory
1683	J. H. Beamer	35 W. Columbia	Satisfactory
1684	T. C. Kinsey	1243 College	Satisfactory
1685	A. B. Sloop	1230 Chicago	Satisfactory
1686	Larsons	1226 Chicago	Satisfactory
1687	Wm. Howard	1200 Chicago	Satisfactory
1688	J. Y. Wheatley	1201 Chicago	Satisfactory
1689	D. A. Smith	1231 Chicago	Satisfactory
1690	E. A. Warner	1222 Liberty	Satisfactory
1691	Rob. White	216 Water	Satisfactory
1692	D. F. Sprinkle	300 Water	Satisfactory
1693	S. H. Keller	340 Water	Satisfactory
1694	H. Gayly	1301 Liberty	Satisfactory
1695	O. C. Law	1313 Liberty	Satisfactory
1696	J. A. Rice	1409 Liberty	Satisfactory
1697	Frank App	1433 Liberty	Satisfactory
1698	N. H. Murphy	1501 Liberty	Satisfactory
1699	P. Potter	1301 Chicago	Satisfactory
1700	E. T. Snyder	1305 Chicago	Satisfactory
1701	L. N. Lowellen	1325 Chicago	Satisfactory
1702	L. Pattengail	1329 Chicago	Satisfactory
1703	W. McClellan	1333 Chicago	Satisfactory
1704	D. M. Ottman	1405 Chicago	Satisfactory
1705	R. R. Reed	1425 Chicago	Satisfactory
1706	Vacant	1304 Chicago	Bad
1707	H. M. Webster	1310 Chicago	Satisfactory
1708	Vacant	1316 Chicago	Bad
1709	Jess Apt.	1328 Chicago	Satisfactory
1710	Chas. Lowe	1404 Chicago	Satisfactory
1711	J. W. Scales	1436 Chicago	Bad
1712	Carl Bauer	1413 College	Satisfactory
1713	R. H. Hawkins	1425 College	Bad
1714	P. Kern	1433 College	Bad
1715	Christ Voelisle	1437 College	Satisfactory
1716	Chas. Howland	Syracuse	Satisfactory
1717	Daniel Howland	1509 N. Third	Satisfactory
1718	John Wagner	1334 College	Satisfactory
1719	C. Smith	1316 College	Bad
1720	T. Gumell	1307 College	Bad
1721	Ida Tolén	1321 College	Satisfactory
1722	O. L. Potter	1325 College	Satisfactory
1723	C. W. Cook	1333 College	Satisfactory
1724	Ed. Gray	30 W. Columbia	Satisfactory
1725	John Olsen	16 W. Columbia	Satisfactory
1726	C. A. Sagesar	1329 N. Third	Satisfactory
1727	C. A. Fellow	1337 N. Third	Satisfactory
1728	N. Settles	1328 N. Third	Satisfactory
1729	O. Strickle	1334 N. Third	Satisfactory
1730	Frank Minick	16 Spring	Satisfactory
1731	Spring on Spring Street		Satisfactory
1732	Sam Jotshall	1420 N. Third	Bad
1733	T. F. Linaman	1431 N. Third	Satisfactory
1734	Mrs. M. A. Baker	1432 N. Third	Satisfactory
1735	Harry Latz	1516 N. Third	Satisfactory
1736	Arthur Voorhees	1528 N. Third	Satisfactory
1737	Philip Voorhees	1534 N. Third	Bad
1738	J. E. Ludders	1542 N. Third	Satisfactory
1739	Herbert Dunn	College Hill	Satisfactory
1740	A. Hedrick	1503 Pleasant Hill	Bad
1741	Chas. Market	1511 Pleasant Hill	Satisfactory
1742	Wilson Swallow	1539 Pleasant Hill	Satisfactory
1743	Orphans Home	1331 Pleasant Hill	Satisfactory
1744	John Clary	1233 Pleasant Hill	Satisfactory
1745	Mount Hope Cemetery	Pleasant Hill	Satisfactory
1746	C. D. Sellers	510 Henry	Satisfactory
1747	Homer Fye	514 Henry	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
1748	O. H. Ballinger	1020 Pleasant Hill	Satisfactory
1749	F. N. Fauer	930 Pleasant Hill	Satisfactory
1750	Chas. Selgman	924 Pleasant Hill	Bad
1751	A. Forsh	420 Ottawa	Satisfactory
1752	Jos. Harts	412 Ottawa	Bad
1753	Camel	902 N. 6th	Satisfactory
1754	F. Arnold	405 E. Ottawa	Satisfactory
1755	W. Kendal	407 E. Ottawa	Satisfactory
1756	J. Lucy	417 E. Ottawa	Satisfactory
1757	Bishop Elevator Co.	402 E. Main	Satisfactory
1758	Vacant	716 N. 6th	Satisfactory
1759	H. J. Beck	414 Michigan	Satisfactory
1760	George Flannagan	430 Michigan	Satisfactory
1761	Mrs. M. S. Heber	824 Fulton	Satisfactory
1762	Wm. Hatcher	712 Fulton	Satisfactory
1763	J. E. Cronin	1321 Johnson	Satisfactory
1764	D. Davis	730 Fulton	Satisfactory
1765	J. M. Hingel	1314 Clifton	Satisfactory
1766	J. W. Sheaffer	1322 Clifton	Satisfactory
1767	C. C. Bennett	1326 Clifton	Satisfactory
1768	E. Green	1334 Clifton	Satisfactory
1769	J. A. Berry	1402 Clifton	Satisfactory
1770	Geo. A. Humberger	1436 Clifton	Satisfactory
1771	Geo. Alborning	1452 Clifton	Satisfactory
1772	Lewis Smith	1510 Clifton	Satisfactory
1773	Vacant	1503 Clifton	Satisfactory
1774	Tho. Gall	508 Shaw	Satisfactory
1775	H. Galloway	503 Mobley	Satisfactory
1776	Wm. Halsey	514 Franklin	Satisfactory
1777	J. L. Thompson	1515 Clifton	Satisfactory
1778	Mrs E. Growl	625 Franklin	Satisfactory
1779	C C Ennis	1309 Franklin	Bad
1780	O. B. Landis	1600 Clifton	Bad
1781	J. E. Harbin	1612 Clifton	Satisfactory
1782	Robt. Tarn	1616 Clifton	Satisfactory
1783	Sherman Tucker	1626 Clifton	Bad
1784	B. A. Kennel	1703 Shaw	Satisfactory
1785	I. D. Tackard	1706 Clifton	Bad
1786	J. J. Wood	1702 Clifton	Bad
1787	Sarah May Hill	1800 Clifton	Bad
1788	W. M. Sprowl	1717 Clifton	Bad
1789	Mrs. A. Jacks	1629 Clifton	Bad
1790	I. W. Thompson	500 Mobley	Satisfactory
1791	Merle O. Galloway	1813 Clifton	Bad
1792	Martha Hatwood	1614 Monroe	Bad
1793	G. C. Doty	1816 Silver	Satisfactory
1794	Geo. W. Pherson	1805 Johnson	Satisfactory
1795	Leigh Kreary	1515 Johnson	Satisfactory
1796	E. B. McQuire	Trann	Satisfactory
1797	O. S. Marshall	1833 Meadlawn	Satisfactory
1798	C. F. Packard	1852 Meadlawn	Bad
1799	C. B. Oldham	1812 Meadlawn	Bad
1800	J. Northinski	216 Jackson	Satisfactory
1801	J. F. Kennel	1713 Meadlawn	Bad
1802	George Wertley	1729 Meadlawn	Satisfactory
1803	J. V. Wickersham	1635 Meadlawn	Satisfactory
1804	Harry Smith	1608 Treen	Satisfactory
1805	Wm. Dody	1610 Treen	Satisfactory
1806	Vacant—Mrs. Fezzler (owner)	1634 Treen	Satisfactory
1807	Roseta Bates	1635 Treen	Satisfactory
1808	George Carr	1619 Treen	Bad
1809	E. G. Wolf	1611 Treen	Satisfactory
1810	W. E. Tarvar	1618 Johnson	Satisfactory
1811	T. J. Overpeck	1715 Franklin	Satisfactory
1812	A. W. Jones	1503 Johnson	Satisfactory
1813	J. Pasley	1417 Johnson	Bad
1814	Kath Palmroy	1416 Johnson	Bad
1815	G. H. Minter	1437 Treen	Bad
1816	J. K. Wells	1432 Treen	Satisfactory
1817	McKinley Public School		Satisfactory
1818	Frank Darr	1533 Meadlawn	Satisfactory
1819	M. L. Harbord	1628 Meadlawn	Satisfactory
1820	John H. Graff	1535 Meadlawn	Satisfactory
1821	Roy Grantham	1539 Michigan	Bad
1822	Wm. Schryer	1603 Michigan	Bad
1823	O. A. Sinaman	1607 Michigan	Bad

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
1824	John Benjamin	1611 Michigan	Satisfactory
1825	Vacant	1627 Michigan	Bad
1826	E. L. Sheaffer	1635 Michigan	Satisfactory
1827	A. J. Gallion	1701 Michigan	Satisfactory
1828	J. Craiger	1705 Michigan	Bad
1829	James Newport	1709 Michigan	Bad
1830	M. A. McDowd	1715 Michigan	Satisfactory
1831	..... Knight	1721 Michigan	Bad
1832	C. F. Mahoney	1731 Michigan	Satisfactory
1833	John Foster	1202 Johns	Bad
1834	E. W. Albert	1914 Creek	Bad
1835	J. H. Holt	1907 Michigan	Bad
1836	A. A. Overland	1911 Michigan	Bad
1837	..... Overling	1830 Michigan	Bad
1838	C. W. Waly	1826 Michigan	Bad
1839	Mrs. Mary Alber	1714 Michigan	Bad
1840	F. F. Yike	1648 Michigan	Bad
1841	T. D. Beard	1630 Michigan	Bad
1842	Chas. Statford	1626 Michigan	Satisfactory
1843	Wm. Bunger	1618 Michigan	Bad
1844	J. P. Conners	1729 Buchanan	Bad
1845	G. W. Jones	1721 Buchanan	Bad
1846	Chester Wood	1715 Buchanan	Bad
1847	A. L. Balr	1726 Buchanan	Bad
1848	Wm. Marin	1701 Buchanan	Bad
1849	M. A. Tucker	1556 Buchanan	Bad
1850	James Berry	1234 Smith	Bad
1851	Frank Etmire	1233 Smith	Bad
1852	Chas. Tucker	1260 Smith	Bad
1853	L. J. Knapp	1261 Smith	Satisfactory
1854	J. Sexton	1536 Morgan	Satisfactory
1855	J. R. Livingston	1532 Morgan	Satisfactory
1856	Henry Sawyer	1514 Morgan	Bad
1857	Dan Tarver	1121 Smith	Satisfactory
1858	W. H. Ward	1530 Michigan	Bad
1859	F. Martin	1418 Michigan	Bad
1860	Else Coss	918 Maple	Satisfactory
1861	J. C. Patcher	932 Maple	Bad
1862	Benjamin Dunkle	926 Claude	Satisfactory
1863	H. Harvey	1210 Claude	Bad
1864	L. B. Cruster	1100 Michigan	Satisfactory
1865	Chas. Cash	1207 Cummings	Satisfactory
1866	C. F. Bennett	934 Michigan	Satisfactory
1867	W. Sehrt	627 Cliff Drive	Satisfactory
1868	..... Fisher	307 Michael	Satisfactory
1869	W. Kendall	319 Michael	Satisfactory
1870	Vacant	Near Michael St.	Bad
1871	..... Lewis	325 Michael	Satisfactory
1872	John Tiner	505 Cliff Drive	Satisfactory
1873	J. H. Reid	435 Cliff Drive	Satisfactory
1874	C. E. Niblick	439 Taylor	Satisfactory
1875	J. Kaiser	421 Cliff Drive	Bad
1876	F. H. Buckleman	411 Cliff Drive	Bad
1877	H. H. Snyder	323 Cliff Drive	Satisfactory
1878	W. R. Paddock	313 Cliff Drive	Satisfactory
1879	E. G. Reinheimer	227 Cliff Drive	Satisfactory
1880	P. S. Walter	223 Cliff Drive	Satisfactory
1881	Ray & Arnold Creamery Co.	131 Burlington	Satisfactory
1882	Ray & Arnold Creamery Co.	131 Burlington	Satisfactory
1883	George Helmely	120 Montgomery	Satisfactory
1884	Joe Laronge	100 Colfax	Satisfactory
1885	..... Felker	122 E. Colfax	Satisfactory
1886		121 Humphrey	Satisfactory
1887	Miss Eliz. Crue	117 Humphrey	Satisfactory
1888	Vacant—Mrs. E. Schmerber	114 Humphrey	Bad
1889	Hazel	124 Humphrey	Satisfactory
1890	Frank Wall	222 E. Colfax	Satisfactory
1891	J. F. Campbell	201 Highland	Satisfactory
1892	R. S. Blackstone	211 Highland	Satisfactory
1893	Hugh Leasure	204 Highland	Satisfactory
1894	R. McDonald	204 Cole	Satisfactory
1895	N. Seiber	211 Cole	Satisfactory
1896	Geo. Littlefield	201 Cole	Satisfactory
1897	S. R. Turnpauqh	201 Humphrey	Satisfactory
1898	C. Rausch	123 E. Colfax	Satisfactory
1899	S. W. Curtis	201 Montgomery	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water
1900	L. S. Gotshall	208 Montgomery	Satisfactory
1901	G. E. Guge	207 Montgomery	Satisfactory
1902	Elmer Berkin	201 Montgomery	Satisfactory
1903	Public Well	E. Colfax	Satisfactory
1904	W. P. Shaper	206 Burlington	Satisfactory
1905	Mrs. S. Lewis	210 Burlington	Satisfactory
1906	Wm. Bucholz	211 Burlington	Satisfactory
1907	A. Muchwright	15 E. Colfax	Satisfactory
1908	Wm. Zimmerman	131 Grove	Satisfactory
1909	John Guleschel	211 Grove	Satisfactory
1910	Mrs. A. Goldsmith	217 Grove	Satisfactory
1911	A. Kerr	221 Grove	Satisfactory
1912	M. E. Vigres	231 Grove	Satisfactory
1913	A. Faber	222 W. Main	Satisfactory
1914	J. B. Moore	307 Grove	Satisfactory
1915	J. M. Berket	319 Grove	Satisfactory
1916	O. L. Fair	106 W. Main	Satisfactory
1917	Mrs. Emma Daggot	215 Tanguy	Satisfactory
1918	W. H. Randolph	214 Tanguy	Satisfactory
1919	S. H. Dalrymple	222 Tanguy	Satisfactory
1920	F. Emminger	18 E. Main	Satisfactory
1921	H. Humberg	225 Burlington	Satisfactory
1922	J. Porter	219 Burlington	Satisfactory
1923	J. Diger	214 Burlington	Satisfactory
1924	V. Gross	226 Burlington	Bad
1925	W. A. Rumell	229 Montgomery	Satisfactory
1926	H. Wright	223 Montgomery	Satisfactory
1927	Roger Hill	219 Montgomery	Satisfactory
1928	J. P. Wagner	212 Montgomery	Satisfactory
1929	M. J. Frank	218 Montgomery	Satisfactory
1930	Wm. Schrock	230 Montgomery	Satisfactory
1931	Otto Sims	227 Humphrey	Satisfactory
1932	Walter Meyer	214 Humphrey	Satisfactory
1933	M. Harrington	222 Humphrey	Satisfactory
1934	H. Denhart	228 Humphrey	Satisfactory
1935	C. M. Newberry	229 Cole	Satisfactory
1936	R. Mandues	225 Cole	Satisfactory
1937	Harry Farrer	223 Cole	Satisfactory
1938	L. D. Webster	220 Cole	Satisfactory
1939	L. Turnpaugh	318 E. Main	Satisfactory
1940	J. Morter	400 E. Main	Satisfactory
1941	H. Jack	526 E. Main	Satisfactory
1942	J. L. Hinkle	215 Riverview	Satisfactory
1943	John Burwell	500 E. Main	Satisfactory
1944	E. H. Grace	516 E. Main	Satisfactory
1945	D. Cronin	429 Hamilton	Satisfactory
1946	H. Steinmetz	405 Hamilton	Satisfactory
1947	O. A. Marshall	400 Riverview	Satisfactory
1948	Jesse Hern	330 Riverview	Bad
1949	James Bingham	411 E. Main	Satisfactory
1950	J. Hinkle	325 Burlington	Satisfactory
1951	M. Rue	329 Burlington	Satisfactory
1952	J. Geck	403 Burlington	Satisfactory
1953	John Sultz	407 Burlington	Satisfactory
1954	J. W. Sam	411 Burlington	Satisfactory
1955	Joe Shepard	417 Burlington	Satisfactory
1956	B. H. Deeter	421 Burlington	Satisfactory
1957	W. Beel	427 Burlington	Satisfactory
1958	E. N. Nolan	437 Burlington	Satisfactory
1959	H. Kunse	539 Burlington	Satisfactory
1960	Lewis Howe	601 Burlington	Satisfactory
1961	M. C. Morris	614 Tanguy	Satisfactory
1962	L. C. Green	603 Tanguy	Bad
1963	..... Kisler	501 Tanguy	Satisfactory
1964	S. D. Damm	436 Tanguy	Satisfactory
1965	John Blake	420 Tanguy	Satisfactory
1966	C. L. Gifford	418 Tanguy	Satisfactory
1967	T. W. Huggins	334 Tanguy	Satisfactory
1968	A. Hinkle	325 Tanguy	Satisfactory
1969	K. Bowman	331 Tanguy	Satisfactory
1970	Public School	..... Tanguy	Satisfactory
1971	Chas. Berket	427 Tanguy	Satisfactory
1972	H. R. Slocum	509 Tanguy	Satisfactory
1973	Vacant—J. Schweiger (owner)	436 Grove	Satisfactory
1974	A. W. Hutchinson	422 Grove	Satisfactory
1975	P. J. Rockermel	416 Grove	Satisfactory

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
1976	E. J. Edwards.	412 Grove.	Satisfactory
1977	Mrs. Archibald.	410 Grove.	Satisfactory
1978	H. T. King.	400 Grove.	Satisfactory
1979	Henry Myer.	324 Grove.	Satisfactory
1980	A. Schrader.	239 Grove.	Satisfactory
1981	H. Keller.	403 Grove.	Satisfactory
1982	J. A. Fettig.	409 Grove.	Satisfactory
1983	V. E. Estel.	411 Grove.	Satisfactory
1984	O. J. Johnson.	417 Grove.	Satisfactory
1985	J. A. Murphy.	423 Grove.	Satisfactory
1986	John Slacemann.	429 Grove.	Satisfactory
1987	Earl Segraves.	433 Grove.	Satisfactory
1988	Emma Cotner.	436 Day.	Satisfactory
1989	Vacant.	422 Day.	Satisfactory
1990	Philip Rehn.	416 Day.	Bad
1991	W. R. Mitchell.	308 Burlington.	Satisfactory
1992	C. H. Donrad.	314 Burlington.	Bad
1993	C. W. Arnold.	320 Burlington.	Satisfactory
1994	W. C. Berg.	334 Burlington.	Satisfactory
1995	W. G. Dunn.	400 Burlington.	Satisfactory
1996	C. L. Gartman.	408 Burlington.	Satisfactory
1997	D. Hinkle.	414 Burlington.	Satisfactory
1998	George Harnes.	420 Burlington.	Satisfactory
1999	J. C. Neer.	430 Burlington.	Satisfactory
2000	M. C. Carl.	508 Burlington.	Satisfactory
2001	John Fair.	512 Burlington.	Satisfactory
2002	G. H. Palmer.	518 Burlington.	Satisfactory
2003	Mrs. Julia Haner.	608 Burlington.	Satisfactory
2004	E. Porter.	612 Burlington.	Bad
2005	George Beha.	616 Burlington.	Bad
2006	A. J. Edwin.	501 Montgomery.	Satisfactory
2007	Dan Miller.	521 Montgomery.	Satisfactory
2008	Henry Grisley.	111 E. Clay.	Satisfactory
2009	S. J. Harness.	123 E. Clay.	Satisfactory
2010	Henry Berg.	434 Humphrey.	Satisfactory
2011	Vacant—Dr. Bradfield.	426 Humphrey.	Bad
2012	W. N. Thomas.	431 Montgomery.	Satisfactory
2013	John Seabold.	416 Montgomery.	Satisfactory
2014	A. J. Farmer.	336 Montgomery.	Bad
2015	Julia Crucenmeyer.	323 Montgomery.	Satisfactory
2016	J. A. Reed.	311 Montgomery.	Bad
2017	S. Woodside.	305 Montgomery.	Bad
2018	..... Buchold.	101 E. Main.	Bad
2019	H. E. Burk.	306 Montgomery.	Satisfactory
2020	John Drum.	425 E. Main.	Bad
2021	J. A. Benning.	300 Humphrey.	Bad
2022	Geo. Daniels.	329 Humphrey.	Bad
2023	Mary Reed.	333 Humphrey.	Satisfactory
2024	B. M. Tabor.	411 Humphrey.	Satisfactory
2025	Thos. Deane.	414 E. Tipton.	Bad
2026	George Hiles.	423 Cole.	Satisfactory
2027	J. M. Hite.	438 Highland.	Satisfactory
2028	M. Farmer.	309 Cole.	Satisfactory
2029	Vacant—Dr. Nehf (owner).	314 Cole.	Bad
2030	M. H. Bourg.	410 Day.	Satisfactory
2031	C. Kerns.	406 Day.	Bad
2032	C. Duncan.	400 Day.	Bad
2033	J. L. Worry.	338 Day.	Satisfactory
2034	..... Mullin.	328 Day.	Satisfactory
2035	C. A. Trift.	325 Day.	Satisfactory
2036	Harry Simson.	335 Day.	Satisfactory
2037	..... Nichols.	341 Day.	Satisfactory
2038	L. R. Allison.	320 W. Tipton.	Satisfactory
2039	..... Keicher.	329 W. Tipton.	Satisfactory
2040	John Mutkanfuss.	323 W. Tipton.	Satisfactory
2041	.....	401 Day.	Satisfactory
2042	Mrs. Ella King.	411 Day.	Satisfactory
2043	Mrs. Meyers.	417 Day.	Satisfactory
2044	H. R. Carpenter.	421 Day.	Bad
2045	Sam Kelso.	427 Day.	Satisfactory
2046	Mary Hines.	426 Antony.	Satisfactory
2047	Joe Keifer.	431 Antony.	Satisfactory
2048	George Chesser.	400 Howard.	Satisfactory
2049	Mrs. C. Webb.	412 Howard.	Bad
2050	Bert Kostetler.	418 Howard.	Satisfactory
2051	Albert Grant.	420 Howard.	Bad

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
2052	V. Key	424 Howard	Bad
2053	James Carpenter	436 Howard	Satisfactory
2054	C. C. McIntyre	506 Howard	Satisfactory
2055	George Murray	520 Howard	Satisfactory
2056	C. S. Johnson	527 Howard	Bad
2057	R. Taylor	523 Howard	Bad
2058	Mrs. Hannah Runyer	503 Howard	Bad
2059	John Cassidy	427 Howard	Satisfactory
2060	H. Arnold	415 Howard	Satisfactory
2061	Chas. Alvin	409 Howard	Satisfactory
2062	B. Propst	400 Bartlett	Bad
2063	Chas. Gregory	406 Bartlett	Bad
2064	D. V. Smith	416 Howard	Bad
2065	J. Norton	420 Bartlett	Satisfactory
2066	W. Hernones	432 Bartlett	Bad
2067	D. C. Leasure	500 Bartlett	Bad
2068	Cash Hitchens	504 Bartlett	Bad
2069	W. M. Gano	508 Bartlett	Bad
2070	Leon Huff	516 Bartlett	Bad
2071		520 Bartlett	Bad
2072	Fred Brindley	522 Bartlett	Bad
2073	J. R. Rummel	527 Kloenne	Bad
2074	H. Fuller	523 Kloenne	Bad
2075	Bert Rogers	606 S. Cicotte	Satisfactory
2076	J. E. Fellers	617 Bartlett	Satisfactory
2077	Harry Moore	605 Bartlett	Bad
2078	James Johnson	529 Bartlett	Bad
2079	C. W. Ray	513 Bartlett	Bad
2080	C. H. Osborn	501 Bartlett	Satisfactory
2081	R. E. Langull	433 Bartlett	Satisfactory
2082	J. Wandres	427 Bartlett	Satisfactory
2083	E. E. Reid	421 Bartlett	Satisfactory
2084	Mrs. Anna Batt	413 Bartlett	Satisfactory
2085	J. Sedaus	405 Bartlett	Bad
2086	J. G. Smith	225 W. Dewey	Satisfactory
2087	Eliz. Hile	638 Grove	Satisfactory
2088	Dan Kinnaman	400 Shultz	Satisfactory
2089	Adam Swartzman	408 Shultz	Satisfactory
2090	John R. Miller	426 Shultz	Bad
2091	E. C. Doane	430 Shultz	Bad
2092	H. Parrett	500 Shultz	Bad
2093	Vacant	508 Shultz	Satisfactory
2094	J. T. Stover	518 Shultz	Bad
2095	Duff Ruch	522 Shultz	Bad
2096	W. H. Shuy	610 Shultz	Satisfactory
2097	Mrs. H. A. Wecht	622 Shultz	Bad
2098	G. W. Bolen	626 Shultz	Satisfactory
2099	D. Hyre	630 Shultz	Satisfactory
2100	W. D. Finney	605 S. Cicotte	Satisfactory
2101	W. H. Gillipie	615 S. Cicotte	Satisfactory
2102	Thos. Vernon	627 S. Cicotte	Satisfactory
2103	J. R. Reed	706 Van Buren	Bad
2104	P. W. Reid	816 Van Buren	Satisfactory
2105	Mrs. A. Fosler	825 Van Buren	Satisfactory
2106	John Fosler	827 Van Buren	Satisfactory
2107	Mrs. Marie Richardson	803 Van Buren	Satisfactory
2108	J. B. Waldsmith	735 Van Buren	Satisfactory
2109	Mrs. Isabell Simon	721 Van Buren	Satisfactory
2110	C. T. Denniston	713 Van Buren	Satisfactory
2111	F. W. Spidel	701 Van Buren	Satisfactory
2112	H. De Ford	717 Van Buren	Satisfactory
2113	L. E. Darber	800 Van Buren	Satisfactory
2114	Mrs. L. Vernon	S. Cicotte & Shultz	Satisfactory
2115	R. J. Bollson	629 Shultz	Satisfactory
2116	Marvin Fair	621 Shultz	Satisfactory
2117	Art. B. Moore	619 Shultz	Satisfactory
2118	Harry Speitel	615 Shultz	Satisfactory
2119	H. Michaels	605 Shultz	Satisfactory
2120	George Carter	525 Shultz	Satisfactory
2121	H. W. Jacobs	509 Shultz	Satisfactory
2122	O. A. Regal	507 Shultz	Satisfactory
2123	Henry Green	501 Shultz	Satisfactory
2124	Mrs. Mary Ruch	431 Shultz	Bad
2125	John Ladow	423 Shultz	Satisfactory
2126	Mary Lisenard	417 Shultz	Satisfactory
2127	A. E. Ryan	413 Shultz	Bad

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
2128	George Ferrel.	401 Shultz.	Satisfactory
2129	J. T. Ruch.	404 Culbertson.	Satisfactory
2130	Mrs. R. S. Johnson.	414 Culbertson.	Bad
2131	L. D. Sickafusse.	428 Culbertson.	Bad
2132	Al. Reder.	500 Culbertson.	Bad
2133	H. N. Suter.	506 Culbertson.	Bad
2134	Mary Rupe.	510 Culbertson.	Bad
2135	Mrs. A. Mackle.	518 Culbertson.	Bad
2136	R. F. Gibson.	600 Culbertson.	Bad
2137	Frank Hershner.	813 Kloenne.	Satisfactory
2138	C. W. Brandt.	821 Kloenne.	Satisfactory
2139	McDonald.	612 Culbertson.	Satisfactory
2140	W. E. Laymon.	620 Culbertson.	Satisfactory
2141	W. A. Layman.	626 Culbertson.	Satisfactory
2142	Sylvester Hinkle.	630 Culbertson.	Satisfactory
2143	R. Wilson.	714 Biddle.	Satisfactory
2144	Mag Onason.	720 Biddle.	Satisfactory
2145	S. H. Spitel.	834 Biddle.	Satisfactory
2146	C. A. Kipser.	800 Biddle.	Bad
2147	H. S. Owen.	900 Biddle.	Satisfactory
2148	H. D. Roach.	933 Biddle.	Satisfactory
2149	Chas. Williams.	811 Garfield.	Satisfactory
2150	G. B. Viney.	841 Garfield.	Satisfactory
2151	Ira Fiddle.	853 Garfield.	Satisfactory
2152	Geo. W. Burrows.	861 Garfield.	Satisfactory
2153	W. M. Newsom.	907 Garfield.	Satisfactory
2154	John Props.	911 Garfield.	Satisfactory
2155	J. M. Isaac.	921 Garfield.	Satisfactory
2156	Allen Prophet.	935 Garfield.	Satisfactory
2157	C. H. Tollen.	932 Garfield.	Bad
2158	Mrs. George Adams.	948 Garfield.	Bad
2159	George Bershire.	940 West.	Satisfactory
2160	Earl Frick.	858 Garfield.	Satisfactory
2161	S. F. Buckleman.	844 Garfield.	Satisfactory
2162	H. Spalding.	826 Garfield.	Satisfactory
2163	A. Sherman.	808 Garfield.	Satisfactory
2164	C. N. Prophet.	804 Garfield.	Satisfactory
2165	S. Gunkle.	815 Sherman.	Bad
2166	G. H. Minx.	825 Sherman.	Bad
2167	Nelson Rupe.	R. R. No. 34.	Satisfactory
2168	John Bunty.	875 Sherman.	Bad
2169	Chas. Larmer.	907 Sherman.	Satisfactory
2170	Albert Gruenock.	979 Sherman.	Satisfactory
2171	Vacant—Gruenock (owner).	981 Sherman.	Satisfactory
2172	F. Gruenock.	978 Sherman.	Satisfactory
2173	Murray Warrick.	R. R. No. 34.	Bad
2174	R. Costello.	946 Sherman.	Bad
2175	W. Penny.	914 Sherman.	Satisfactory
2176	T. Lees.	874 Sherman.	Satisfactory
2177	Theo Minnaman.	840 Sherman.	Satisfactory
2178	Frank Graves.	830 Sherman.	Satisfactory
2179	Gordon Graves.	826 Sherman.	Bad
2180	G. H. Hauk.	801 S. Cicotte.	Bad
2181	Webster Hankee.	807 S. Cicotte.	Bad
2182	Mr. Martin.	811 S. Cicotte.	Bad
2183	Hendricks School.	S. Cicotte.	Satisfactory
2184	J. E. Meyres.	901 S. Cicotte.	Satisfactory
2185	David Hanna.	824 S. Cicotte.	Bad
2186	J. I. Shaw.	822 S. Cicotte.	Bad
2187	W. R. Hoffman.	816 S. Cicotte.	Bad
2188	Mrs. M. McGuire.	812 S. Cicotte.	Bad
2189	George Ford.	804 S. Cicotte.	Bad
2190	John H. Lux.	736 S. Cicotte.	Satisfactory
2191	Mrs. Ada Davis.	523 S. Third.	Satisfactory
2192	Mrs. Jennie Guss.	505 S. Third.	Bad
2193	A. F. Cassman.	219 Bank.	Bad
2194	Fred Stottler.	129 Bank.	Bad
2195	Mrs. T. Bennett.	600 S. Third.	Bad
2196	Wilson Berry.	516 Reynolds.	Satisfactory
2197	Chas. Shaft.	606 Reynolds.	Satisfactory
2198	T. Cheoys.	400 Discardie.	Satisfactory
2199	Joe Coates.	412 Discardie.	Satisfactory
2200	E. Kircher.	413 Discardie.	Bad
2201	Lee Murphy.	524 Huber.	Satisfactory
2202	E. Sellers.	100 Discardie.	Bad
2203	Cook.	517 Discardie.	Bad

TABLE NO. 3—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
2204	George Mullendore.....	509 Discardie.....	Bad
2205	George Gillett.....	505 Discardie.....	Bad
2206	David Pummel.....	419 Russell.....	Satisfactory
2207	Otis Hileman.....	403 Russell.....	Satisfactory
2208	Rd. Bergus.....	614 Reynolds.....	Satisfactory
2209	H. B. Linton.....	701 Helm.....	Satisfactory
2210	City Library.....	....Broadway.....	Satisfactory

Table Number 4. Tabulation showing location of privies of the city of Logansport which do not comply with the city ordinances. The first 89 of this list include the name of the owners of the properties at which these privies are located.

TABLE NO. 4.

Report Number.	Location of Property.	Owner of Property.
1	82—17th St.....	J. Buchanan
2	1930 High St.....	S. F. Johnson
3	1725 North St.....	W. R. Thomas
4	2301 High St.....	R. D. Eldorff
5	1510 Market St.....	E. R. Welch
6	1518 Market St.....	Mrs. Stuhl
7	1530 Market St.....	Mrs. Stuhl
8	1620 Market St.....	..... Kelly
9	1730 Market St.....	Mrs. K. J. Landis
10	2205 Broadway.....	J. A. Thompson
11	1121 Market St.....	Mrs. S. Rheinhamer
12	1612 Spear St.....	Mrs. M. Knight
13	1920 Spear St.....	P. Krager
14	531 Fitch St.....	Mrs. Ellen Rhine
15	518 Fitch St.....	Chas. Brozier
16	1918 George St.....	H. Thornton
17	1922 George St.....	A. B. Maple
18	2311 Spear St.....	Mrs. T. J. Miller
19	703—12th St.....	J. B. Kelvey
20	621—12th St.....	Tony Pozale
21	1300 Smead St.....	S. Huffman
22	1330 Smead St.....	Bessie Austin
23	1319 George St.....	Jos. Newmeyer
24	1527 George St.....	..... Seabold
25	1519 George St.....	Mrs. Thos. O'Connell
26	1507 George St.....	John Flanagan
27	1503 George St.....	John Mulchay
28	1611 George St.....	Doris Wienmiller
29	1631 George St.....	J. Sellers
30	621—17th St.....	Mrs. J. Sellers
31	1721 George St.....	Wm. Moetta
32	1911 George St.....	J. W. Young
33	1905 George St.....	Mrs. Hallie Brewer
34	1212 Erie Ave.....	E. B. Strawser
35	712—13th St.....	John Wolf
36	1426 Wright St.....	T. W. Chapel
37	725—17th St.....	Mrs. J. Heck
38	722—18th St.....	John Fuller
39	930—20th St.....	W. E. Finks
40	1024—17th St.....	B. L. Long
41	518 Culbertson.....	Art Hutchinson
42	1629 Toledo St.....	Al. Jenkins
43	718 N. Pearl St.....	Sophia Smith
44	222 E. Linden St.....	F. W. Taylor
45	16 E. Linden St.....	Louis Welser
46	710 North St.....	J. C. Rheim
47	25 E. Miami St.....	W. H. Smith

TABLE NO. 4—Continued.

Report Number.	Location of Property.	Owner of Property.
48	17 E. Miami St.	Barney Free
49	215 W. Miami St.	John Clary
50	221 W. Miami St.	Mrs. Bebee
51	427 W. Miami St.	Mrs. Lusher
52	812 W. Linden St.	H. D. Shenick
53	328 W. Linden St.	Mrs. W. Asmus
54	236 W. Linden St.	Mrs. A. Polk
55	230 W. Linden St.	Mrs. Millson
56	122 W. Linden St.	Henry Unger
57	831 W. Miami St.	Mrs. Mamie Seabold
58	915 W. Miami St.	Samuel McCord
59	1136 W. Linden St.	Frank Kinley
60	615 Wilkinson St.	Jesse Smith
61	315 W. Linden St.	Frank Potter
62	806 W. Broadway.	J. Kisler
63	516 W. Melbourne St.	Wm. Kaiser
64	930 W. Wabash St.	T. Spry
65	Lockwood and Helm Sts.	Mrs. Twelves
66	440 Tacoma St.	N. H. Ray
67	428 Tacoma St.	Ella Conroy
68	424 Tacoma St.	Mrs. N. Connor
69	420 Tacoma St.	Fritz L. Morris
70	416 Tacoma St.	Ernest Kock
71	412 Tacoma St.	Richard Trulls
72	406 Tacoma St.	Pat Connors
73	1026 Woodland.	Wm. Pickett
74	1014 Daisy St.	Velay
75	1210 College Ave.	Mrs. Morris
76	1226 Chicago Ave.	Larseno
77	340 Water St.	C. W. Graves
78	1425 College Ave.	Ray Walt
79	1539 Pleasant Hill.	John Brown
80	1911 Michigan Ave.	A. A. Oberland
81	1828 Michigan Ave.	Chris Hurt
82	1530 Michigan Ave.	W. H. Ward
83	621 Shiltz St.	Thomas Frye
84	421 Cliff Drive	J. Kaiser
85	214 Humphrey St.	Wm. Beyer
86	426 E. Clay St.	Dr. Bradfield
87	E. Tipton St.	Nellie Patton
88	420 Bartlett St.	Frank Whipperman
89	520 Howard St.	Thos. Frye
90	2329 North St.	
91	519 Discardie St.	
92	1241 Toledo St.	
93	923 North St.	
94	72—17th St.	
95	74—17th St.	
96	78—17th St.	
97	1519 Broadway.	
98	1524 E. Market St.	
99	1616 E. Market St.	
100	416—12th St.	
101	518—13th St.	
102	1408 George St.	
103	1516 George St.	
104	1520 George St.	
105	517—16th St.	
106	1824 George St.	
107	1930 George St.	
108	705—12th St.	
109	701—12th St.	
110	625—12th St.	
111	628—11th St.	
112	1517 George St.	
113	1513 George St.	
114	1607 George St.	
115	1625 George St.	
116	1627 George St.	
117	617—17th St.	
118	918 Lytle St.	
119	824—12th St.	
120	1422 Wright St.	
121	912—16th St.	
122	1417 Erie Ave.	
123	1323 Toledo Ave.	

TABLE NO. 4—Continued.

Report Number.	Location of Property.	Owner of Property.
124	1413 Toledo St.	
125	1703 Knowlton St.	
126	716 N. Pearl St.	
127	717 N. 5th St.	
128	21 E. Miami St.	
129	13 E. Miami St.	
130	7 W. Miami St.	
131	11 W. Miami St.	
132	121 W. Miami St.	
133	207 W. Miami St.	
134	515 W. Miami St.	
135	722 W. Linden St.	
136	712 W. Linden St.	
137	710 W. Linden St.	
138	808 W. Linden St.	
139	825 W. Miami St.	
140	913 W. Miami St.	
141	1118 W. Linden St.	
142	837 W. Linden St.	
143	615 W. Linden St.	
144	507 W. Linden St.	
145	419 W. Linden St.	
146	431 W. Linden St.	
147	211 W. Linden St.	
148	927 Wheatland Ave.	
149	931 Wheatland Ave.	
150	507 Wheatland Ave.	
151	421 Wheatland Ave.	
152	417 W. Broadway.	
153	1220 Cummings St.	
154	724 Bates St.	
155	912 Vandalla.	
156	432 Tacoma St.	
157	410 Tacoma St.	
158	1220 Chicago Ave.	
159	726 Johnson St.	
160	416 Discardie St.	
161	213 E. Colfax St.	
162	216 E. Humphrey St.	
163	522 Culbertson St.	
164	835 Cicotte St.	

TABLE NO. 5.

CONDITION OF PRIVATE WELL SUPPLIES OF NOBLESVILLE.
INDIANA.

Sample Number.	Resident.	Address.	Condition of Water.
1	Dan Bradley.	145 E. Christian St.	Satisfactory
2	Albert Roberts.	141 E. Christian St.	Satisfactory
3	Mrs. Lamar.	133 E. Christian St.	Satisfactory
4	O. Reveal.	131 E. Christian St.	Satisfactory
5	J. T. Johnson.	125 E. Christian St.	Satisfactory
6	Ed. Holderman.	119 E. Christian St.	Satisfactory
7	William Holman.	113 E. Christian St.	Satisfactory
8	John Grover.	106 E. Christian St.	Satisfactory
9	James Kunt.	99 E. Christian St.	Satisfactory
10	A. Kemp.	93 E. Christian St.	Satisfactory
11	Joe McVey.	87 E. Christian St.	Satisfactory
12	Geo. Clark.	81 E. Christian St.	Satisfactory
13	R. Wolfgang.	71 E. Christian St.	Satisfactory
14	Will Foner.	69 E. Christian St.	Satisfactory
15	C. O. Have.	61 E. Christian St.	Satisfactory
16	Ed. Castetter.	52 E. Christian St.	Satisfactory
17	C. H. Gerarel.	60 E. Christian St.	Satisfactory
18	H. Turner.	64 E. Christian St.	Satisfactory

TABLE NO. 5—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
19	C. Goettle.	68 E. Christian St.	Satisfactory
20	A. Lunsford.	76 E. Christian St.	Satisfactory
21	W. Pierce.	86 E. Christian St.	Bad
22	Mrs. Richman.	96 E. Christian St.	Satisfactory
23	Mrs. E. J. Clark.	100 E. Christian St.	Satisfactory
24	Henry Irwin.	106 E. Christian St.	Satisfactory
25	Roy Gascho.	114 E. Christian St.	Satisfactory
26	S. Sylvester.	118 E. Christian.	Satisfactory
27	G. Lawhon.	124 E. Christian St.	Satisfactory
28	John Kinaman.	134 E. Christian St.	Satisfactory
29	Mrs. W. Todd.	140 E. Christian St.	Satisfactory
30	W. H. Ward.	146 E. Christian St.	Satisfactory
31	J. J. Clark.	405 S. Tenth St.	Satisfactory
32	J. W. Tash.	413 S. Tenth St.	Satisfactory
33	K. Seymour.	421 S. Tenth St.	Satisfactory
34	Cash Perry.	433 S. Tenth St.	Satisfactory
35	J. France.	428 S. Ninth St.	Satisfactory
36	W. J. Whitesell.	420 S. Ninth St.	Satisfactory
37	T. Turner.	408 S. Eighth St.	Satisfactory
38	C. Wheelchel.	436 S. Ninth St.	Satisfactory
39	Underwood.	446 S. Ninth St.	Satisfactory
40	Charles Lacy.	450 S. Ninth St.	Satisfactory
41	C. West.	458 S. Ninth St.	Satisfactory
42	G. W. Martz.	472 S. Ninth St.	Satisfactory
43	J. H. Howe.	478 S. Ninth St.	Satisfactory
44	O. Swank.	484 S. Ninth St.	Satisfactory
45	J. Whitman.	Cor. Gerald & So. 9th St.	Satisfactory
46	James Lockridge.	538 S. Ninth St.	Bad
47	John McClain.	562 S. Ninth St.	Bad
48	M. Lawhon.	125 E. Chestnut St.	Satisfactory
49	Ed. Gumbles.	105 E. Chestnut St.	Satisfactory
50	C. Goettle.	99 E. Chestnut St.	Satisfactory
51	J. M. Roudebush.	95 E. Chestnut St.	Bad
52	A. McKenzie.	85 E. Chestnut St.	Satisfactory
53	E. Sharp.	69 E. Chestnut St.	Bad
54	S. N. Wheatley.	368 S. 11th St.	Satisfactory
55	C. E. Ackles.	86 E. Chestnut.	Satisfactory
56	H. Fox.	96 E. Chestnut St.	Satisfactory
57	D. A. Carson.	102 E. Chestnut St.	Satisfactory
58	A. E. Mayfield.	120 E. Chestnut St.	Satisfactory
59	John Reveal.	117 E. Plum St.	Satisfactory
60	O. Todd.	127 E. Plum St.	Satisfactory
61	H. Stern.	334 S. 13th St.	Satisfactory
62	W. H. Abnor.	101 E. Plum St.	Satisfactory
63	H. Culley.	89 E. Plum St.	Satisfactory
64	Sim Harrison.	85 E. Plum St.	Satisfactory
65	J. M. Tuggle.	77 E. Plum St.	Satisfactory
66	H. Virgin.	330 E. Plum St.	Satisfactory
67	H. Stephenson.	86 E. Plum St.	Satisfactory
68	Ed. Mulley.	90 E. Plum St.	Satisfactory
69	W. Miller.	98 E. Plum St.	Satisfactory
70	J. Louis.	104 E. Plum St.	Satisfactory
71	Sara Heady.	110 E. Plum St.	Satisfactory
72	W. O. Stephenson.	122 E. Plum St.	Satisfactory
73	J. Castater.	109 E. Plum St.	Satisfactory
74	L. Bradfield.	126 E. Washington St.	Bad
75	May Kennedy.	120 E. Washington St.	Satisfactory
76	Mrs. E. J. Woods.	90 E. Washington St.	Bad
77	F. Garrett.	84 E. Washington St.	Satisfactory
78	W. Farvee.	30 S. 11th St.	Satisfactory
79	S. C. Stern.	91 E. Washington St.	Satisfactory
80	O. Galloway.	83 E. Washington St.	Bad
81	Ed. Simpson.	98 E. Chestnut St.	Satisfactory
82	C. Henning.	78 E. Plum St.	Satisfactory
83	C. Merchant.	284 S. 11th St.	Satisfactory
84	H. Nicholson.	278 S. 11th St.	Satisfactory
85	W. Staurt.	274 S. 11th St.	Satisfactory
86	Joe Roberts.	240 S. 11th St.	Satisfactory
87	Joe Roberts.	240 S. 11th St.	Satisfactory
88	J. B. Garrison.	236 S. 11th St.	Satisfactory
89	Frank Wicker.	220 S. 11th St.	Satisfactory
90	Jim Coverdale.	212 S. 11th St.	Satisfactory
91	Joe Miller.	200 S. 11th St.	Satisfactory
92	Paul Carter.	180 S. 11th St.	Bad
93	H. O. Case.	178 S. 11th St.	Satisfactory
94	B. Brooks.	172 S. 11th St.	Satisfactory

TABLE NO. 5—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
95	T. E. Carter	160 S. 11th St.	Satisfactory
96	R. Mongold	164 S. 11th St.	Satisfactory
97	John Thom	91 E. Division St.	Satisfactory
98	W. Partlow	94 E. Mulberry St.	Bad
99	Perry Thornton	99 E. Division St.	Satisfactory
100	Mrs. R. C. Holdcraft	105 E. Division St.	Bad
101	Frank McGuire	109 E. Division St.	Bad
102	H. J. Heath	115 E. Division St.	Bad
103	Mrs. W. E. Pfaff	121 E. Division St.	Bad
104	Vacant	165 S. 13th St.	Satisfactory
105	Fred Coverdale	110 E. Vine St.	Bad
106	May E. Gray	103 E. Vine St.	Satisfactory
107	S. McFall	125 E. Vine St.	Satisfactory
108	Alice Gibbons	208 E. Vine St.	Satisfactory
109	Frank Denny	212 S. 13th St.	Satisfactory
110	H. Muntz	210 S. 13th St.	Bad
111	D. Rill	E. Vine St.	Bad
112	H. I. Ackler	198 S. 13th St.	Bad
113	T. J. Armstrong	166 S. 13th St.	Satisfactory
114	Mrs. F. Caylor	123 E. Division St.	Bad
115	C. F. Dawson	145 E. Division St.	Satisfactory
116	W. Mitchell	151 E. Division St.	Satisfactory
117	David Rhoads	157 E. Division St.	Satisfactory
118	Fanna Kemp	151 S. 14th St.	Satisfactory
119	William Glaser	153 S. 14th St.	Satisfactory
120	N. Granger	183 E. Mulberry St.	Satisfactory
121	Chas. Ferguson	177 E. Mulberry St.	Satisfactory
122	Albert Kemp	151 E. Mulberry St.	Satisfactory
123	Jonas Bradfield	150 E. Mulberry St.	Bad
124	John Teschner	187 E. Mulberry St.	Satisfactory
125	Dick Brooks	E. Mulberry St.	Satisfactory
126	A. Gillum	201 E. Mulberry St.	Satisfactory
127	I. Scott	205 E. Mulberry St.	Satisfactory
128	L. N. Goins	Cor. 15th & Mulberry	Satisfactory
129	J. Solomon	153 S. 15th St.	Satisfactory
130	H. W. Casey	207 E. Division St.	Satisfactory
131	Mrs. Sohl	211 E. Mulberry St.	Satisfactory
132	Van Aveny	199 E. Division St.	Bad
133	F. Scott	193 E. Division St.	Satisfactory
134	Rev. Rabitory	189 E. Division St.	Satisfactory
135	J. Randall	152 S. 14th St.	Satisfactory
136	V. Bennett	256 E. Division St.	Satisfactory
137	W. Lennen	214 E. Division St.	Satisfactory
138	Fred Williams	118 S. 16th St.	Satisfactory
139	H. Mendenhall	110 S. 16th St.	Satisfactory
140	B. Nagbe	249 E. Hannibal	Satisfactory
141	A. Bush	224 E. Division	Satisfactory
142	G. Edmond	212 E. Division St.	Satisfactory
143	Nat Williams	210 E. Division St.	Satisfactory
144	Allen Davis	162 E. Division St.	Satisfactory
145	W. Scoville	154 E. Division St.	Satisfactory
146	M. Shaul	142 E. Division St.	Satisfactory
147	Mrs. R. H. Pruitt	134 E. Division St.	Satisfactory
148	S. Godby	132 E. Division St.	Satisfactory
149	Charley Dixon	124 E. Division St.	Satisfactory
150	Charley Hadley	114 E. Division St.	Satisfactory
151	A. H. Williams	100 E. Division St.	Satisfactory
152	Will Clark	73 E. Hannibal St.	Satisfactory
153	Al Harrison	115 E. Hannibal	Satisfactory
154	Will Frey	131 E. Hannibal St.	Satisfactory
155	Carl Oberlies	133 E. Hannibal St.	Satisfactory
156	E. Liftraphitrayr	139 E. Hannibal St.	Satisfactory
157	John Kaiser	149 E. Hannibal St.	Satisfactory
158	Ira Grimes	171 E. Hannibal St.	Satisfactory
159	J. E. Mason	163 E. Hannibal St.	Satisfactory
160	James Riley	175 E. Hannibal St.	Satisfactory
161	C. Basey	179 E. Hannibal St.	Satisfactory
162	John Hammer	183 E. Hannibal St.	Satisfactory
163	C. Paskins	187 E. Hanniba. St.	Satisfactory
164	Ira Fisher	211 E. Hannibal St.	Satisfactory
165	Mrs. Grimes	213 E. Hannibal St.	Satisfactory
166	L. Clark	221 E. Hannibal St.	Satisfactory
167	Harry Clark	237 E. Hannibal St.	Satisfactory
168	Mrs. R. E. Clark	239 E. Hannibal St.	Satisfactory
169	A. Partlow	242 E. Hannibal St.	Satisfactory
170	M. D. Gatewood	240 E. Hannibal St.	Satisfactory

TABLE NO. 5—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
171	A. B. Mendenhall	192 E. Hannibal St.	Satisfactory
172	Will Lees	182 E. Hannibal St.	Bad
173	L. E. Roberts	166 E. Hannibal St.	Satisfactory
174	W. Edson	138 E. Hannibal St.	Satisfactory
175	E. E. Fisher	124 E. Hannibal St.	Bad
176	Mrs. J. Ross	116 E. Hannibal St.	Satisfactory
177	Leo Butler	100 E. Hannibal St.	Satisfactory
178	Mrs. J. Harrison	92 E. Hannibal St.	Satisfactory
179	C. J. Cottingham	82 E. Hannibal St.	Satisfactory
180	J. E. Foxworthy	89 E. Cherry St.	Satisfactory
181	Fred Wyant	103 E. Cherry St.	Satisfactory
182	Ida Clark	115 E. Cherry St.	Satisfactory
183	T. J. Burton	147 E. Cherry St.	Satisfactory
184	C. Pickett	177 E. Cherry St.	Satisfactory
185	I. Farlow	187 E. Cherry St.	Satisfactory
186	Gro. Gaunt	191 E. Cherry St.	Satisfactory
187	Mary A. Harrison	201 E. Cherry St.	Satisfactory
188	Mr. Cook	225 E. Cherry St.	Satisfactory
189	O. H. Ford	237 E. Cherry St.	Satisfactory
190	M. Nance	243 E. Cherry St.	Satisfactory
191	Frank Madge	62 E. Hannibal St.	Satisfactory
192	Ed. Weaver	65 E. Division St.	Satisfactory
193	Frank Baker	155 S. 11th St.	Satisfactory
194	Jim Pryor	65 E. Mulberry St.	Satisfactory
195	Jacob Brown	191 S. 11th St.	Bad
196	Frank Caylor	215 S. 11th St.	Satisfactory
197	Mrs. E. Stefke	215 S. 11th St.	Bad
198	Perry Mendenhall	217 S. 11th St.	Satisfactory
199	Frank Wyant	219 S. 11th St.	Satisfactory
200	A. Weaver	233 S. 11th St.	Bad
201	J. Gossett	235 S. 11th St.	Satisfactory
202	W. Galloway	241 S. 11th St.	Satisfactory
203	W. Milner	249 S. 11th St.	Bad
204	F. E. Edwards	255 S. 11th St.	Satisfactory
205	Hugh Griffith	261 S. 11th St.	Satisfactory
206	Mrs. W. H. Schrader	269 S. 11th St.	Satisfactory
207	H. D. Reeves	283 S. 11th St.	Satisfactory
208	Harry Pfaff	291 S. 11th St.	Satisfactory
209	John P. Schaller	299 S. 11th St.	Satisfactory
210	J. A. Schaller	301 S. 11th St.	Satisfactory
211	John Vail	32 S. 11th St.	Bad
212	E. L. Kaiser	327 S. 11th St.	Satisfactory
213	F. Femyer	333 S. 11th St.	Satisfactory
214	Harry Sheets	335 S. 11th St.	Satisfactory
215	Tom Lennon	345 S. 11th St.	Satisfactory
216	G. Montgomery	355 S. 11th St.	Satisfactory
217	Emil Decker	365 S. 11th St.	Satisfactory
218	H. D. Decker	369 S. 11th St.	Satisfactory
219	E. Eubanks	400 S. 10th St.	Satisfactory
220	H. Layton	380 S. 10th St.	Satisfactory
221	Everett Ross	52 E. Chestnut St.	Satisfactory
222	C. E. Hibler	356 S. 10th St.	Bad
223	Miss Fisher	344 S. 10th St.	Bad
224	Henry Bockevog	326 S. 10th St.	Bad
225	Floyd McVey	300 S. 10th St.	Satisfactory
226	M. W. Todd	292 S. 10th St.	Satisfactory
227	Ralph Dunn	290 S. 10th St.	Satisfactory
228	L. W. Quilkey	288 S. 10th St.	Satisfactory
229	F. Brattain	282 S. 10th St.	Bad
230	H. Cornelius	260 S. 10th St.	Satisfactory
231	T. J. Harrison	250 S. 10th St.	Satisfactory
232	Levi Spannuth	248 S. 10th St.	Satisfactory
233	Mrs. F. Galloway	238 S. 10th St.	Bad
234	John Kerwin	294 S. 10th St.	Satisfactory
235	F. Underwood	230 S. 10th St.	Satisfactory
236	James Giger	238 S. 10th St.	Satisfactory
237	Mrs. C. J. Weaver	224 S. 10th St.	Satisfactory
238	Mrs. Ed. Conner	202 S. 10th St.	Satisfactory
239	Vacant	200 S. 10th St.	Satisfactory
240	L. Stewart	535 Mulberry St.	Satisfactory
241	A. P. Caylor	57 E. Mulberry St.	Satisfactory
242	A. Nicholson	57 E. Mulberry St.	Satisfactory
243	Mrs. G. Rainer	54 E. Mulberry St.	Satisfactory
244	C. Pickett	137 S. 10th St.	Satisfactory
245	Thom Berger	209 S. 10th St.	Satisfactory
246	Mrs. Strickfaden	213 S. 10th St.	Bad

TABLE NO. 5—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
247	O. A. Hainick	227 S. 10th St.	Bad
248	Mrs. W. F. Harrison	235 S. 10th St.	Satisfactory
249	W. Ringwalt	243 S. 10th St.	Bad
250	C. Embrer	245 S. 10th St.	Satisfactory
251	Mrs. F. Dawe	255 S. 10th St.	Satisfactory
252	Henry Have	277 S. 10th St.	Satisfactory
253	Ed. Frushour	287 S. 10th St.	Satisfactory
254	Elizabeth Kincaid	295 S. 10th St.	Satisfactory
255	W. Baker	301 S. 10th St.	Bad
256	S. Ferguson	303 S. 10th St.	Satisfactory
257	Mrs. Gulkey	333 S. 10th St.	Satisfactory
258	O. Earl	337 S. 10th St.	Bad
259	W. R. White	345 S. 10th St.	Satisfactory
260	Thomas Eaden	355 S. 10th St.	Satisfactory
261	W. Thacker	365 S. 10th St.	Satisfactory
262	George Spannuth	18 E. Chestnut St.	Satisfactory
263	Fred Kinnaman	371 S. 10th St.	Satisfactory
264	Harry Barry	375 S. 10th St.	Satisfactory
265	F. C. Horney	385 S. 10th St.	Satisfactory
266	Jim Fenton	384 S. 9th St.	Satisfactory
267	Frank Whitesell	376 S. 9th St.	Satisfactory
268	John Wyant	368 S. 9th St.	Satisfactory
269	F. P. Lahr	354 S. 9th St.	Satisfactory
270	N. Femyer	342 S. 9th St.	Satisfactory
271	W. A. Kiler	324 S. 9th St.	Satisfactory
272	Chas. Wasson	322 S. 9th St.	Satisfactory
273	M. Baker	312 S. 9th St.	Satisfactory
274	Harry Batdorf	304 S. 9th St.	Satisfactory
275	L. G. Schmollinger	300 S. 9th St.	Satisfactory
276	J. B. Dudding	288 S. 9th St.	Satisfactory
277	Mrs. Lebo	276 S. 9th St.	Satisfactory
278	Mrs. H. C. Coughlin	268 S. 9th St.	Satisfactory
279	D. A. Hill	266 S. 9th St.	Satisfactory
280	F. Lennen	256 S. 9th St.	Satisfactory
281	J. M. Worthington	240 S. 9th St.	Satisfactory
282	Albert Weldon	238 S. 9th St.	Satisfactory
283	Mrs. Bert Have	226 S. 9th St.	Satisfactory
284	Mark Perkins	218 S. 9th St.	Satisfactory
285	F. Garrett	184 S. 9th St.	Satisfactory
286	John Stephens	160 S. 9th St.	Satisfactory
287	Mrs. Dr. Smith	140 S. 9th St.	Satisfactory
288	Mrs. A. R. Tucker	84 S. 9th St.	Satisfactory
289	R. Nicholson	296 S. 11th St.	Satisfactory
290	E. Layton	79 E. Chestnut St.	Bad
291	O. J. Rensberger	248 S. 9th St.	Satisfactory
292	T. W. Hammonds	542 S. 8th St.	Satisfactory
293	W. Lilly	538 S. 8th St.	Satisfactory
294	Fred Hill	534 S. 8th St.	Satisfactory
295	C. A. Waterman	528 S. 8th St.	Satisfactory
296	Jesse Cullins		Satisfactory
297	Cliff Morris	514 S. 8th St.	Satisfactory
298	James McClerkin	508 S. 8th St.	Satisfactory
299	W. Waterman	506 S. 8th St.	Satisfactory
300	Robert Avery	500 S. 8th St.	Satisfactory
301	E. Lumford	494 S. 8th St.	Satisfactory
302	A. J. Whelchel	476 S. 8th St.	Satisfactory
303	L. Whelchel	472 S. 8th St.	Satisfactory
304	Vacant	434 S. 8th St.	Bad
305	A. L. McVey	525 S. 9th St.	Satisfactory
306	P. C. Casey	499 S. 9th St.	Satisfactory
307	Fannie Baker	429 S. 9th St.	Satisfactory
308	W. C. Swank	403 S. 9th St.	Satisfactory
309	Sam Poor	395 S. 9th St.	Satisfactory
310	Chautauqua Grounds		Satisfactory
311	John Bennett	137 S. 9th St.	Satisfactory
312	Clay Reveal	399 S. 9th St.	Satisfactory
313	J. W. Dalley	395 S. 9th St.	Satisfactory
314	J. Wall	387 S. 9th St.	Satisfactory
315	T. N. Olvey	385 S. 9th St.	Satisfactory
316	W. R. Lund	377 S. 9th St.	Satisfactory
317	Sam Mott	371 S. 9th St.	Satisfactory
318	H. M. Newby	335 S. 9th St.	Satisfactory
319	Robert Hunt	347 S. 9th St.	Satisfactory
320	W. Carey	321 S. 9th St.	Satisfactory
321	O. B. Gascho	329 S. 9th St.	Bad
322	I. Michael	309 S. 9th St.	Bad

TABLE NO. 5—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
323	George Palmer	303 S. 9th St.	Satisfactory
324	C. Jerrell	301 S. 9th St.	Satisfactory
325	F. Bond	295 S. 9th St.	Satisfactory
326	Earnest Weaver	289 S. 9th St.	Satisfactory
327	Mrs. A. Lennen	277 S. 9th St.	Satisfactory
328	Mrs. A. Bradley	271 S. 9th St.	Satisfactory
329	Mrs. E. Gains	263 S. 9th St.	Satisfactory
330	M. Geiger	259 S. 9th St.	Satisfactory
331	M. Smith	239 S. 9th St.	Satisfactory
332	Mrs. S. Gipe	237 S. 9th St.	Satisfactory
333	Ross Inman	233 S. 9th St.	Bad
334	Earnest Simpson	225 S. 9th St.	Satisfactory
335	Mrs. O. Mann	195 S. 9th	Satisfactory
336	B. Lennen	81 S. 9th St.	Satisfactory
337	Mrs. Bert Hare	Cor. 8th & Cherry Sts.	Satisfactory
338	Chas. Manford	118 S. 8th St.	Satisfactory
339	L. Swank	230 S. 8th St.	Satisfactory
340	Arthur Roberts	252 S. 8th St.	Satisfactory
341	Jarven Minnlear	266 S. 8th St.	Bad
342	Pat Reed	268 S. 8th St.	Satisfactory
343	Ted Nichols	274 S. 8th St.	Satisfactory
344	Charley Kenipe	280 S. 8th St.	Satisfactory
345	Levi Scott	288 S. 8th St.	Bad
346	Frank Small	294 S. 8th St.	Satisfactory
347	John Gunnion	302 S. 8th St.	Satisfactory
348	G. W. Costler	304 S. 8th St.	Bad
349	Joe Johnson	314 S. 8th St.	Satisfactory
350	Oscar Roberts	324 S. 8th St.	Satisfactory
351	F. Henderson	344 S. 8th St.	Satisfactory
352	Lon Eunick	352 S. 8th St.	Satisfactory
353	Dave Darrah	368 S. 8th St.	Satisfactory
354	Mrs. A. Riley		Bad
355	W. A. Finchburn	376 S. 8th	Satisfactory
356	M. Whitmore	382 S. 8th St.	Satisfactory
357	P. L. Bend	386 S. 8th St.	Satisfactory
358	John Turner	400 S. 8th St.	Satisfactory
359	J. Ellingwood	402 S. 8th St.	Satisfactory
360	Harry McDonald	428 S. 8th St.	Satisfactory
361	W. L. Trowbridge	127 S. 7th	Bad
362	W. Casey	51 W. Hannibal St.	Satisfactory
363	Asa Howe	53 W. Hannibal St.	Satisfactory
364	Perry Bishop	59 W. Hannibal St.	Satisfactory
365	Vern Davis	73 W. Hannibal St.	Satisfactory
366	Will Gearhart	128 W. Division	Satisfactory
367	Mrs. R. Swartz	65 W. Vine	Satisfactory
368	T. Roberts	66 S. 6th	Satisfactory
369	T. A. Boyles	56 W. Walnut	Satisfactory
370	M. Lovell	55 W. Walnut	Satisfactory
371	F. Williams	61 W. Walnut	Satisfactory
372	E. Macy	67 W. Walnut	Bad
373	Thed Wynbeck	62 W. Pleasant	Bad
374	W. M. Shirley	60 W. Pleasant	Satisfactory
375	C. Craig	58 W. Pleasant	Satisfactory
376	B. Gilliam	52 W. Pleasant	Satisfactory
377	O. Maker	46 W. Pleasant St.	Satisfactory
378	J. Umbenhower	44 W. Pleasant St.	Satisfactory
379	C. Nicholson	38 W. Pleasant	Satisfactory
380	A. Alford	35 W. Pleasant	Satisfactory
381	Walter Smith	249 S. 8th St.	Satisfactory
382	O. Giger	47 W. Pleasant St.	Satisfactory
383	S. Umbenhower	49 W. Pleasant St.	Satisfactory
384	George Gipe	55 W. Pleasant St.	Satisfactory
385	Jap. Nicholson	65 W. Pleasant St.	Satisfactory
386	George Snyder	73 W. Pleasant St.	Satisfactory
387	C. Woodruff	66 W. Washington St.	Satisfactory
388	H. Weaver	58 W. Washington St.	Bad
389	Will Evans	52 W. Washington St.	Satisfactory
390	Mrs. F. Pfaff	38 W. Washington St.	Satisfactory
391	N. Bassett	35 W. Washington St.	Satisfactory
392	W. C. Poor	93 S. 8th St.	Satisfactory
393	H. F. Ackles	366 S. 8th St.	Satisfactory
394	Emma Wallace	41 W. Washington St.	Satisfactory
395	I. Gunyon	58 W. Plum	Satisfactory
396	Everett Moore	119 W. Plum	Satisfactory
397	George Smiley	42 W. Plum	Satisfactory
398	R. W. Winslow	40 W. Plum	Satisfactory

TABLE NO. 5—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
399	Mrs. L. Reeves	51 W Plum St.	Bad
400	C. N. Stambrough	55 W Plum	Satisfactory
401	J. B. McCarty	67 W Plum St.	Satisfactory
402	E. L. Halsey	64 W Chestnut St.	Satisfactory
403	N. Beaver	58 W Chestnut St.	Satisfactory
404	Bill Riggs	52 W Chestnut St.	Satisfactory
405	H. Stafford	46 W Chestnut St.	Satisfactory
406	G. Riggs	38 W Chestnut St.	Bad
407	N. Harrison	34 W Chestnut St.	Satisfactory
408	Mr. Spielman	46 W Chestnut St.	Satisfactory
409	R. Griffin	46 W Christian St.	Satisfactory
410	W. F. Lane	61 W Christian St.	Satisfactory
411	Clarence Ogle	51 W Chestnut St.	Satisfactory
412	Fred Tyler	37 W Plum St.	Satisfactory
413	W. Sturdevant	43 W Plum St.	Satisfactory
414	I. Shew	61 W Plum St.	Satisfactory
415	W. Beaver	58 W Christian St.	Satisfactory
416	W. H. Woods	59 W Christian St.	Bad
417	B. Willets	54 W South St.	Satisfactory
418	Mrs. Parrish	58 W South St.	Satisfactory
419	O. Hunnicutt	35 W South St.	Satisfactory
420	E. Probst	61 W South St.	Satisfactory
421	M. Bassett	58 S. 6th St.	Bad
422	R. Ballard	471 S. 6th St.	Satisfactory
423	C. O. Bowser	97 W South St.	Satisfactory
424	Emma Scales	90 W South	Satisfactory
425	Frank Elwood	100 W South St.	Satisfactory
426	John Thomas	92 W Christian	Satisfactory
427	O. Whitmore	83 W Christian St.	Satisfactory
428	M. Poor	81 W Christian St.	Satisfactory
429	H. Hiatt	80 W Christian St.	Bad
430	W. Harrison	73 W Chestnut St.	Satisfactory
431	S. Hampton	75 W Chestnut St.	Satisfactory
432	I. Wilson	72 W Chestnut St.	Satisfactory
433	Fred Bartholomew	76 W Chestnut St.	Satisfactory
434	F. J. Hord	82 W Chestnut St.	Satisfactory
435	R. Sturdevant	92 W Chestnut St.	Satisfactory
436	F. A. Faucett	91 W Plum St.	Satisfactory
437	J. K. Trittip	89 W Plum St.	Satisfactory
438	M. Wiseman	75 W Plum St.	Satisfactory
439	James Mark	70 W Plum St.	Satisfactory
440	D. B. McConnell	72 W Plum St.	Bad
441	E. Sturdevant	92 W Plum St.	Bad
442	A. E. Gatewood	100 W Plum St.	Satisfactory
443	J. Smith	99 W Washington St.	Bad
444	W. O. Vanmeter	91 W Washington St.	Satisfactory
445	J. W. Allen	303 S. 6th St.	Satisfactory
446	Vacant	305 S. 6th St.	Bad
447	Idle Wild	Pleasant St.	Satisfactory
448	G. W. Kessinger	95 W Pleasant St.	Satisfactory
449	Jim Messel	100 W Pleasant St.	Satisfactory
450	W. Miller	86 W Pleasant St.	Satisfactory
451	E. E. Burger	69 W Walnut St.	Satisfactory
452	John Oliver	81 W Walnut St.	Satisfactory
453	J. Whitehead	95 W Walnut St.	Satisfactory
454	Will Walton	99 W Walnut St.	Satisfactory
455	R. Avery	94 W Walnut St.	Satisfactory
456	Hester Thompson	88 W Walnut St.	Satisfactory
457	O. Cornelius	84 W Walnut	Satisfactory
458	J. L. Craig	76 W Walnut St.	Satisfactory
459	L. Stanbrogh	69 W Walnut St.	Satisfactory
460	Miss Lewis	89 S. 6th St.	Satisfactory
461	Mrs. F. Stephens	69 W Walnut	Satisfactory
462	Miss Merlin	85 W Vine St.	Satisfactory
463	Sherman Thissalwaite	95 W Vine St.	Satisfactory
464	John Green	99 W Vine St.	Bad
465	John Cunison	199 S. 6th St.	Satisfactory
466	E. Stanbis	191 S. 6th St.	Satisfactory
467	I. L. Kinzer	185 S. 6th St.	Satisfactory
468	W. E. Smith	173 S. 6th St.	Satisfactory
469	E. H. Coverdale	22 W Mulberry St.	Satisfactory
470	Will Neff	100 W Mulberry St.	Satisfactory
471	C. France	146 S. 6th St.	Satisfactory
472	Frank Crull	140 W Division	Satisfactory
473	Mrs. N. M. Boubert	163 S. 6th St.	Satisfactory
474	Martha Hiatt	129 S. 6th St.	Satisfactory

TABLE NO. 5—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
475	C. Taylor	94 W. Division St.	Satisfactory
476	Mrs. J. C. Brown	100 W. Division St.	Bad
477	Dan Williams	104 W. Division	Satisfactory
478	J. T. Dempsey	136 S. 5th St.	Bad
479	Tyler Cruthers	103 S. 5th St.	Satisfactory
480	Jim Nash	87 S. 5th St.	Satisfactory
481	E. Nicholson	97 W. Hannibal	Satisfactory
482	Will Hedgepath	91 W. Hannibal	Bad
483	G. Kinnaman	115 S. 6th St.	Satisfactory
484	R. Mongold	103 S. 6th St.	Satisfactory
485	Mike Bischn	74 W. Hannibal St.	Satisfactory
486	Mrs. Alice Gascho	78 W. Hannibal St.	Satisfactory
487	F. Carey	82 W. Hannibal St.	Bad
488	Bud Lowther	88 W. Hannibal St.	Satisfactory
489	P. A. Leffert	92 W. Hannibal	Satisfactory
490	Everett Neff	96 W. Hannibal St.	Satisfactory
491	Mrs. H. Passwater	98 W. Hannibal St.	Bad
492	Mrs. J. H. Smith	73 W. Cherry St.	Bad
493	Green Roper	75 W. Cherry St.	Satisfactory
494	F. D. Dempsey	96 W. Cherry St.	Satisfactory
495	J. Lawhorn		Satisfactory
496	Mrs. John Eason	93 W. Cherry St.	Satisfactory
497	C. Supple	95 W. Cherry St.	Bad
498	Mrs. Bartholomew	99 W. Cherry St.	Satisfactory
499	M. Baker	69 S. 5th St.	Satisfactory
500	Mrs. McCorkle	77 S. 5th St.	Bad
501	J. Dempsey	83 S. 5th St.	Satisfactory
502	Harry Luppel	97 S. 5th St.	Satisfactory
503	Nan Roberts	115 S. 5th St.	Satisfactory
504	Fred Carey	W. Division St.	Satisfactory
505	W. O. Perkins	W. Division St.	Satisfactory
506	W. O. Perkins	Slaughterhouse	Satisfactory
507	H. Lawhorn	123 W. Vine St.	Satisfactory
508	Alice Garver		Satisfactory
509	Ed. Bradfield	133 W. Vine St.	Bad
510	B. Benniwell	W. Vine St.	Satisfactory
511	E. Swift	W. Vine St.	Satisfactory
512	W. Barker	155 S. 5th St.	Satisfactory
513	J. A. Gerber	199 W. Vine St.	Satisfactory
514	Joe White	216 W. Walnut St.	Satisfactory
515	Jim Green		Satisfactory
516	J. Brown	202 W. Walnut St.	Satisfactory
517	Mrs. Bell	209 W. Walnut	Satisfactory
518	J. Lawhorn	174 W. Walnut St.	Bad
519	G. W. Dunn	172 W. Walnut St.	Bad
520	R. Jamison	156 W. Walnut St.	Satisfactory
521	Mrs. C. W. Smith	144 W. Walnut St.	Satisfactory
522	Frank Bragg	140 W. Walnut	Bad
523	I. Cass	193 W. Walnut	Satisfactory
524	H. Dobson	189 W. Walnut St.	Bad
525	L. Stipp	179 W. Walnut St.	Satisfactory
526	G. Ellingwood	175 W. Walnut St.	Satisfactory
527	P. Partlow	173 W. Walnut St.	Bad
528	W. Raugh	165 W. Walnut	Satisfactory
529	B. Cloverdale	151 W. Walnut	Satisfactory
530	A. Mills	129 W. Walnut	Satisfactory
531	Jack Howard	243 S. 5th St.	Satisfactory
532	Lillie Overton	73 S. 5th St.	Satisfactory
533	Sam Poer	248 S. 8th St.	Satisfactory
534	F. Smiley	66 W. Plum St.	Satisfactory
535	I. Wilson, owner	247 S. 5th St.	Bad
536	Mr. Nicholson	140 W. Pleasant St.	Satisfactory
537	Jessie Vanmeter	148 W. Pleasant St.	Satisfactory
538	B. Stone	134 W. Pleasant St.	Bad
539	Ed. Lawhorn	148 W. Pleasant St.	Bad
540	F. Spera	146 W. Pleasant St.	Satisfactory
541	J. Wellingwood	64 W. Pleasant St.	Satisfactory
542	J. M. Williams	174 W. Pleasant St.	Satisfactory
543	S. Nichols	184 W. Pleasant St.	Satisfactory
544	H. Ellingwood	192 W. Pleasant St.	Satisfactory
545	H. Gaeth	Box Factory	Satisfactory
546	Dick Nicholds	169 W. Pleasant St.	Satisfactory
547	Oval Howe	289 S. 3rd St.	Bad
548	James Gray	299 S. 3rd St.	Bad
549	G. W. Howe	178 W. Washington St.	Bad
550	Riley Fox	195 W. Washington	Satisfactory

TABLE NO. 5—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
551	Bert Cloud.	193 W. Washington St.	Satisfactory
552	L. Wirnberley.	166 W. Plum St.	Satisfactory
553	Newt Harrison.	158 W. Plum St.	Satisfactory
554	F. Crusemire.	140 W. Plum St.	Satisfactory
555	Fred Heath.	136 W. Plum St.	Satisfactory
556	Guy Smith.	118 W. Plum St.	Satisfactory
557	Gray Farris.	132 W. Plum.	Satisfactory
558	T. A. Powell.	333 S. 5th St.	Satisfactory
559	John Smith.	319 S. 5th St.	Satisfactory
560	Lewis Day.	335 S. 5th St.	Satisfactory
561	Rose Fisher.	113 W. Plum St.	Satisfactory
562	Newt Smith.	115 W. Plum St.	Satisfactory
563	James Marshall.	139 W. Plum St.	Satisfactory
564	Frank Ward.	151 W. Plum St.	Satisfactory
565	John Kleffer.	153 W. Plum St.	Satisfactory
566	A. Stein.	149 W. Plum St.	Satisfactory
567	T. H. Burton.	172 W. Chestnut St.	Satisfactory
568	Frank Weaver.	138 W. Chestnut St.	Satisfactory
569	E. W. Viall.	134 W. Chestnut St.	Satisfactory
570	L. Roberts.	132 W. Chestnut St.	Satisfactory
571	Mrs. Sturdevant.	126 W. Chestnut St.	Satisfactory
572	Harvey Lee.	124 W. Chestnut St.	Satisfactory
573	George Adams.	371 S. 5th St.	Satisfactory
574	Ed. Belthymmer.	127 W. Chestnut.	Bad
575	Henry Walton.	133 W. Chestnut St.	Satisfactory
576	A. A. Coffock.	135 W. Chestnut St.	Bad
577	Grover Christianson.	153 W. Chestnut St.	Bad
578	James Tyler.	181 W. Chestnut St.	Satisfactory
579	Canning Factory.	W. Chestnut St.	Bad
580	Strawboard Co.	W. Chestnut St.	Satisfactory
581	Calvin Avery.	146 Christain St.	Satisfactory
582	Ed. Mundy.	South St.	Satisfactory
583	Henry Bales.	South St.	Bad
584	Earl Huffman.	South St.	Satisfactory
585	E. Bennett.	119 S. Christian St.	Satisfactory
586	Anna Walker.	125 Christian St.	Satisfactory
587	National Carbon Co.	S. 8th St.	Satisfactory
588	Sanitary Manufacturing Co.	S. 8th St.	Satisfactory
589	A. J. Eschenback.	57 W. Walnut St.	Satisfactory
590	Mrs. W. J. Boswell.	70 E. Cherry St.	Satisfactory
591	P. A. Bray.	76 E. Cherry St.	Satisfactory
592	Mrs. P. Pausel.		Satisfactory
593	Mrs. Houk.	150 E. Cherry St.	Satisfactory
594	Jesse Moore.	194 E. Cherry St.	Satisfactory
595	John Reapling.	204 E. Cherry St.	Satisfactory
596	B. T. Hopper.	212 E. Cherry St.	Satisfactory
597	J. Wiseman.	226 E. Cherry St.	Satisfactory
598	Bert Kilbourne.	224 E. Cherry St.	Satisfactory
599	H. B. Williams.	219 E. Maple St.	Satisfactory
600	Ed. M. Alden.	225 Maple St.	Satisfactory
601	N. Klste.	217 Maple St.	Satisfactory
602	N. Hurlock.	157 Maple.	Satisfactory
603	Sarah Fisher.	149 Maple St.	Satisfactory
604	B. F. Wise.	141 Maple.	Satisfactory
605	Will Graham.	131 E. Maple St.	Satisfactory
606	Minnie Carl.	127 E. Maple St.	Satisfactory
607	M. E. Hodson.	113 E. Maple.	Satisfactory
608	Geo. Fariss.	117 E. Maple St.	Satisfactory
609	Don Miller.	109 Maple.	Satisfactory
610	C. L. Bray.	81 E. Maple St.	Satisfactory
611	G. Metzker.	69 Maple St.	Satisfactory
612	Lon Boren.	57 Maple.	Satisfactory
613	Sam Craig.	51 Maple St.	Satisfactory
614	T. J. Patterson.	62 S. 16th St.	Satisfactory
615	Horace Gray.	25 Maple St.	Satisfactory
616	Rev. T. C. Howe.	S. 9th St.	Satisfactory
617	E. M. Have.	22 S. 10th St.	Satisfactory
618	Mary N. Collier.	66 Maple St.	Satisfactory
619	Mrs. Fortner.	73 E. Conner St.	Satisfactory
620	H. M. Caylor.	118 Maple St.	Satisfactory
621	W. E. Craig.	124 E. Maple St.	Satisfactory
622	Lewis Flanders.	150 E. Maple St.	Satisfactory
623	J. M. Crull.	166 E. Maple St.	Satisfactory
624	J. F. Haines.	182 E. Maple St.	Satisfactory
625	O. E. Gaerte.	212 E. Maple St.	Satisfactory
626	J. H. Gascho.	218 E. Maple St.	Satisfactory

TABLE NO. 5—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
627	Gus Smithburn.	230 E. Maple St.	Satisfactory
628	Paul Michael.	219 Conner St.	Satisfactory
629	Dr. H. McGrath.	171 E. Conner St.	Satisfactory
630	Mrs. N. Parish.	121 Conner	Satisfactory
631	Mrs. A. Miese.	82 Conner St.	Satisfactory
632	Mrs. C. A. Denny.	122 Conner	Satisfactory
633	Al Nelson.	130 E. Conner St.	Satisfactory
634	Will Gibson.	214 Conner St.	Satisfactory
635	Sarah Supple.	220 E. Conner St.	Satisfactory
636	Mrs. F. Gascho.	224 E. Conner St.	Satisfactory
637	F. Ellingwood.	230 E. Conner St.	Satisfactory
638	O. Wilson.	233 Logan St.	Satisfactory
639	J. M. Sumner.	221 Logan St.	Satisfactory
640	Lew Fenner.	219 Logan St.	Satisfactory
641	Roy Henderson.	217 Logan St.	Satisfactory
642	J. A. Owen.	215 Logan St.	Satisfactory
643	Cris Howell.	E. Logan St.	Satisfactory
644	C. W. Boyd.	E. Logan St.	Satisfactory
645	Bert Findley.	165 Logan St.	Satisfactory
646	Dr. Austin.	149 Logan St.	Satisfactory
647	Ed. Lightford.	135 E. Logan St.	Satisfactory
648	O. N. Trueblood.	101 E. Logan St.	Satisfactory
649	James Wood.	33 N. 10th St.	Satisfactory
650	Walter Hiatt.	29 E. Logan St.	Satisfactory
651	Mrs. M. A. O'Brien.	23 E. Logan St.	Satisfactory
652	Anna Banchers.	54 N. 10th St.	Satisfactory
653	Mrs. J. G. Essington.	34 N. 10th St.	Satisfactory
654	A. O. Catterson.	58 Logan St.	Satisfactory
655	Thomas Edwards.	64 E. Logan St.	Satisfactory
656	Mrs. A. E. Deeds.	166 E. Logan St.	Satisfactory
657	J. Deppen.	168 E. Logan St.	Satisfactory
658	Mrs. J. S. Coyner.	182 E. Logan St.	Satisfactory
659	Roll Keeling.	98 E. Logan St.	Satisfactory
660	William Vaught.	206 E. Logan St.	Satisfactory
661	Mrs. W. Gearhart.	216 E. Logan St.	Satisfactory
662	E. Castetter.	222 Logan St.	Satisfactory
663	Fred Warren.	232 E. Logan St.	Satisfactory
664	Anna French.	229 Clinton St.	Satisfactory
665	Elmer Wills.	227 E. Logan St.	Satisfactory
666	A. C. Warren.	215 E. Clinton St.	Satisfactory
667	J. M. Semans.	207 E. Clinton St.	Satisfactory
668	J. W. Williamson.	197 Clinton St.	Satisfactory
669	J. E. Macy.	189 Clinton St.	Satisfactory
670	John Harris.	181 E. Clinton St.	Satisfactory
671	W. C. Vance.	175 E. Clinton St.	Satisfactory
672	J. S. Jobe.	178 E. Clinton.	Satisfactory
673	Harry Essington.	151 E. Clinton St.	Satisfactory
674	H. G. Deck.	149 E. Clinton St.	Satisfactory
675	M. R. Wilds.	133 E. Clinton St.	Satisfactory
676	W. D. Cullen.	131 Clinton St.	Satisfactory
677	Anson Roberts.	Clinton St.	Satisfactory
678	M. F. Harriss.	109 E. Clinton St.	Satisfactory
679	Ellen Griffin.	125 E. Clinton St.	Satisfactory
680	Mrs. C. Miner.	67 E. Clinton St.	Satisfactory
681	H. A. Housel.	56 N. 10th St.	Satisfactory
682	A. W. Coonfield.	15 E. Clinton St.	Satisfactory
683	James McClain.	58 E. Clinton St.	Satisfactory
684	D. O. B. Pettijohn.	66 E. Clinton St.	Bad
685	Steve Plain.	70 E. Clinton St.	Satisfactory
686	Ad. Wills.	80 E. Clinton St.	Satisfactory
687	Earl Alford.	90 E. Clinton St.	Satisfactory
688	C. Jerrell.	92 E. Clinton St.	Satisfactory
689	Frank Carr.	98 E. Clinton St.	Satisfactory
690	Mrs. L. A. Wise.	108 E. Clinton St.	Satisfactory
691	Mrs. E. McCole.	120 E. Clinton St.	Satisfactory
692	Miss C. Essington.	136 E. Clinton St.	Satisfactory
693	John Wise.	142 E. Clinton.	Bad
694	Jean McPherson.	146 E. Clinton St.	Satisfactory
695	Harry Mills.	172 E. Clinton St.	Satisfactory
696	J. M. Smith.	158 E. Clinton.	Satisfactory
697	Bill Reed.	100 E. Clinton St.	Satisfactory
698	Mel Hartman.	184 E. Clinton St.	Satisfactory
699	F. L. Toy.	196 E. Clinton St.	Satisfactory
700	O. B. Stuart.	212 E. Clinton St.	Satisfactory
701	L. Lennen.	226 E. Clinton St.	Satisfactory
702	Joel Stafford.	230 E. Clinton St.	Satisfactory

TABLE NO. 5—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
703	Robert Davis.	215 E. Wayne St.	Satisfactory
704	Walter Duckwald.	207 E. Wayne St.	Satisfactory
705	L. B. Mitchell.	193 E. Wayne.	Satisfactory
706	Will Doblenscheck.	183 E. Wayne St.	Satisfactory
707	Mrs. Frank Stricker.	85 N. 14th St.	Satisfactory
708	Chas. Ritchart.	165 E. Wayne St.	Satisfactory
709	A. W. Teter.	59 E. Wayne St.	Satisfactory
710	Mrs. I. Riggs.	149 E. Wayne.	Satisfactory
711	W. A. Hummer.	145 E. Wayne St.	Satisfactory
712	C. Hiatt.	137 E. Wayne.	Satisfactory
713	F. E. Castetter.	99 E. Wayne St.	Satisfactory
714	Mrs. E. McGuire.	85 E. Wayne St.	Satisfactory
715	Forest Hage.	100 N. 11th St.	Satisfactory
716	Fred Deck.	59 E. Wayne St.	Satisfactory
717	L. C. Kefner.	57 E. Wayne St.	Satisfactory
718	Ben Hadley.	86 N. 10th St.	Satisfactory
719	Mr. Russell.	92 N. 10th St.	Satisfactory
720	Mrs. H. Goff.	100 N. 9th St.	Satisfactory
721	Johnathan Miessl.	108 N. 11th St.	Satisfactory
722	Clarence Keaton.	102 N. 11th St.	Satisfactory
723	R. M. Kealing.	92 E. Wayne St.	Satisfactory
724	E. Kleyla.	100 E. Wayne St.	Satisfactory
725	Mrs. A. Clarke.	102 E. Wayne St.	Satisfactory
726	C. Carroll.	114 Wayne St.	Satisfactory
727	W. Moore.	120 E. Wayne St.	Satisfactory
728	Mrs. G. Scott.	128 E. Wayne St.	Satisfactory
729		152 Wayne St.	Satisfactory
730	Will Hayer.	154 Wayne St.	Satisfactory
731	Joe Davis.	158 E. Wayne St.	Satisfactory
732	P. M. Deppen.	180 E. Wayne St.	Satisfactory
733	A. M. Jackson.	184 E. Wayne St.	Satisfactory
734	M. A. Meadows.	190 E. Wayne St.	Satisfactory
735	Will Cloe.	214 E. Wayne St.	Satisfactory
736	Miss C. Knaar.	218 E. Wayne St.	Satisfactory
737	Harry Gibbons.	218 E. Harrison St.	Satisfactory
738	Arthur Trout.	189 Harrison St.	Satisfactory
739	Fred Zook.	187 E. Harrison St.	Satisfactory
740	Mrs. M. McDougal.	185 E. Harrison St.	Satisfactory
741	E. T. Haworth.	177 E. Harrison St.	Satisfactory
742	C. Miessl.	173 E. Harrison St.	Satisfactory
743	Jim Almond.	N. 14th St.	Satisfactory
744	E. Blinger.	165 E. Harrison St.	Satisfactory
745	Dave Gascho.	151 E. Harrison.	Satisfactory
746	W. H. Smith.	151 E. Harrison St.	Satisfactory
747	Jim Downing.	137 E. Harrison St.	Satisfactory
748	J. Rosell.	131 E. Harrison St.	Satisfactory
749	C. Sopher.	121 E. Harrison St.	Satisfactory
750	O. E. Benson.	115 E. Harrison St.	Satisfactory
751	Frank Deluce.	101 E. Harrison.	Satisfactory
752	Alice Roudebush.	99 E. Harrison St.	Bad
753	Mrs. J. Tough.	87 E. Harrison St.	Satisfactory
754	H. Stanblo.	138—11th St.	Satisfactory
755	Will Bragg.	128 N. 11th St.	Satisfactory
756	Mrs. E. A. Bechtel.	131 N. 11th St.	Bad
757	F. Cottingham.	127 N. 11th St.	Satisfactory
758	A. Caylor.	129 N. 11th St.	Satisfactory
759	Levis Fisher.	128 N. 9th St.	Satisfactory
760	Will Clark.	102 E. Harrison St.	Satisfactory
761	B. E. Pardue.	114 E. Harrison.	Satisfactory
762	Clem Stanford.	122 E. Harrison St.	Satisfactory
763	W. R. Lyons.	128 E. Harrison St.	Satisfactory
764	O. E. Phillips.	140 E. Harrison St.	Satisfactory
765	Will Caylor.	146 E. Harrison St.	Satisfactory
766	C. Teters.	152 E. Harrison St.	Satisfactory
767	G. Heverstick.	166 E. Harrison St.	Satisfactory
768	W. C. Boothe.	180 E. Harrison.	Satisfactory
769	Mrs. W. Street.	194 E. Harrison St.	Satisfactory
770	Mrs. Randall.	Morton St.	Satisfactory
771	Mrs. Higley.	197 E. Morton St.	Satisfactory
772	L. Comstock.	191 E. Morton St.	Satisfactory
773	Floyd Bond.	187 E. Morton St.	Satisfactory
774	Mrs. M. Roudebush.	183 E. Morton St.	Satisfactory
775	W. Platt.	165 Morton St.	Satisfactory
776	C. Wall.	157 E. Morton.	Satisfactory
777	Henry Dill.	133 E. Morton.	Satisfactory
778	I. Parton.	123 E. Morton St.	Satisfactory

TABLE NO. 5—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
779	A. Kealing.....	154 N. 12th St.	Satisfactory
780	M. Hiatt.....	184 N. 14th St.	Satisfactory
781	J. R. Hamble.....	211 E. Morton St.	Satisfactory
782	Mr. Johnson.....	E. Morton St.	Satisfactory
783	J. W. Brock.....	222 E. Morton St.	Satisfactory
784	Mrs. J. Golding.....	202 E. Morton St.	Satisfactory
785	Ed. Fleming.....	172 E. Morton St.	Satisfactory
786	Frank Anderson.....	166 E. Morton St.	Satisfactory
787	C. Faucett.....	148 E. Morton St.	Satisfactory
788	John Tice.....	140 E. Morton St.	Satisfactory
789	J. Sullivan.....	134 E. Morton St.	Satisfactory
790	G. Mills.....	118 E. Morton St.	Satisfactory
791	F. Sapper.....	114 E. Morton St.	Satisfactory
792	P. Carroll.....	110 E. Morton St.	Satisfactory
793	Mrs. S. M. Flanders.....	E. Morton St.	Satisfactory
794	Bert Hale.....	86 E. Morton St.	Satisfactory
795	C. E. Manford.....	66 E. Morton St.	Satisfactory
796	H. Cottingham.....	55 E. Grant St.	Satisfactory
797	Mrs. Robert Batson.....	67 E. Grant.....	Satisfactory
798	J. M. Partchard.....	234 N. 11th St.	Satisfactory
799	Joe Burger.....	93 E. Grant St.	Satisfactory
800	Bert Cullops.....	97 Grant St.	Satisfactory
801	J. N. Stevenson.....	107 Grant St.	Satisfactory
802	J. Kistner.....	113 Grant.....	Satisfactory
803	John Overdorf.....	187 Grant St.	Satisfactory
804	Mrs. E. Daly.....	191 Grant.....	Satisfactory
805	L. Luman.....	213 E. Grant St.	Satisfactory
806	B. T. Baillier.....	215 E. Grant St.	Satisfactory
807	J. F. Lanham.....	232 E. Grant St.	Satisfactory
808	K. Page.....	214 E. Grant St.	Satisfactory
809	Lewis Mills.....	212 E. Grant.....	Satisfactory
810	Horace Malott.....	208 E. Grant St.	Satisfactory
811	John Huntsinger.....	200 E. Grant St.	Satisfactory
812	Roll Huntsinger.....	196 E. Grant St.	Satisfactory
813	H. E. Burroughs.....	186 E. Grant St.	Satisfactory
814	W. Pickerell.....	182 E. Grant St.	Satisfactory
815	Jim Applegate.....	E. Grant St.	Satisfactory
816	A. Moore.....	160 E. Grant St.	Satisfactory
817	F. Reynolds.....	148 E. Grant St.	Satisfactory
818	W. Harper.....	146 E. Grant St.	Satisfactory
819	Mahlon Granger.....	136 E. Grant St.	Satisfactory
820	Mary Quear.....	94 E. Grant St.	Satisfactory
821	Robert Batson.....	92 E. Grant.....	Satisfactory
822	Ed. Cade.....	E. Grant St.	Bad
823	A. Lunsford.....	254 N. 11th St.	Bad
824	Tom Sawyer.....	260 N. 11th St.	Bad
825	C. Keffer.....	69 E. Evans St.	Satisfactory
826	Mrs. Joe Stephenson.....	75 E. Evans St.	Satisfactory
827	Mrs. N. Morgan.....	83 E. Evans St.	Satisfactory
828	John Burger.....	117 E. Evans St.	Satisfactory
829	E. Pruitt.....	120 Central St.	Satisfactory
830	Vacant.....	Central.....	Satisfactory
831	Harvey Smith.....	94 Central St.	Satisfactory
832	E. P. Lawson.....	100 Central St.	Satisfactory
833	P. H. Thomas.....	131 Central St.	Satisfactory
834	Mrs. E. Helms.....	163 Central St.	Satisfactory
835	Earl Mitchell.....	183 Central.....	Satisfactory
836	T. C. Anderson.....	187 Central St.	Satisfactory
837	Will Lackey.....	Central St.	Satisfactory
838	George Randall.....	201 Central St.	Satisfactory
839	H. R. Wodell.....	222 Central St.	Satisfactory
840	Porter Rousch.....	194 E. Central St.	Satisfactory
841	Ed. Holloway.....	188 Central St.	Satisfactory
842	Lee Wilson.....	Central St.	Satisfactory
843	Vacant.....	Central St.	Satisfactory
844	W. H. Pearson.....	160 Central St.	Satisfactory
845	Miss S. Williams.....	146 Central St.	Satisfactory
846	Charles Brown.....	126 Central St.	Satisfactory
847	S. Thomas.....	132 E. Central St.	Satisfactory
848	M. Smeltzer.....	137 Evans St.	Satisfactory
849	J. M. Tindall.....	143 Evans St.	Satisfactory
850	S. Tindall.....	157 Evans St.	Satisfactory
851	Charles Weaver.....	175 Evans St.	Satisfactory
852	Henry Heiney.....	215 Evans St.	Satisfactory
853	C. Rayle.....	223 Evans St.	Satisfactory
854	Fred Mills.....	Evans St.	Satisfactory

TABLE NO. 5—Continued.

Sample Number.	Resident.	Address.	Condition of Wat. r.
855	Mrs. A. Ragsdale	788 Evans St.	Satisfactory
856	Jim Gatewood	186 Evans St.	Satisfactory
857	Mrs. A. Alcorn	164 Evans St.	Satisfactory
858	Bert Vail	128 Evans St.	Satisfactory
859	Mrs. N. J. Maker	116 Evans St.	Satisfactory
860	Walter Duckwall	N. 10th St.	Satisfactory
861	W. H. Hoelgen	N. 10th St.	Satisfactory
862	M. Bell	N. 10th St.	Satisfactory
863	Mrs. D. Pausel	N. 10th St.	Satisfactory
864	Mrs. F. Evans	N. 10th St.	Satisfactory
865	W. H. Roudebush	332 N. 10th St.	Bad
866	Bill Taylor	340 N. 10th St.	Satisfactory
867	Bert Cottingham	342 N. 10th St.	Satisfactory
868	R. Foland	82 North St.	Satisfactory
869	Walter Scott	106 North St.	Satisfactory
870	Frank Coverdale	116 North St.	Satisfactory
871	Ike Silvery	120 North St.	Satisfactory
872	Mrs. R. J. Priddy	132 North St.	Satisfactory
873	Chas. McNally	140 North St.	Satisfactory
874	Jerry Tough	141 North St.	Satisfactory
875	Lenz Faucett	141 North St.	Satisfactory
876	M. Gamber	210 North St.	Satisfactory
877	F. Edgerton	231 North St.	Satisfactory
878	G. Holderman	211 North St.	Satisfactory
879	Charley Stone	N. Evans St.	Satisfactory
880	W. Fryberg	271 N. 10th St.	Satisfactory
881	E. H. Kellam	257 N. 10th St.	Satisfactory
882	Bill Barker	N. 9th St.	Satisfactory
883	C. O. Mock	237 N. 10th St.	Satisfactory
884	C. F. Pierson	233 N. 10th St.	Satisfactory
885	C. Carr	215 N. 10th St.	Satisfactory
886	P. Metsker	252 N. 10th St.	Satisfactory
887	F. D. Faust	186 N. 12th St.	Satisfactory
888	Sam Miller	192 Wayne St.	Satisfactory
889	W. T. Stevenson	167 E. Wayne St.	Satisfactory
890	Mrs. J. Koons	175 E. Wayne St.	Satisfactory
891	Mrs. M. Bartholomew	37 S. 5th St.	Satisfactory
892	Caroline Demfrey	49 S. 5th St.	Bad
893	Mrs. John Middleton	102 W. Cherry St.	Satisfactory
894	Pete Corey	91 W. Cherry St.	Satisfactory
895	Frank Randall	55 S. 6th St.	Satisfactory
896	A. G. Hutchens	65 S. 6th St.	Satisfactory
897	Mrs. E. C. Wilson	56 S. 8th St.	Satisfactory
898	Mrs. Haverstick	39 S. 8th St.	Satisfactory
899	Walter Thomas	95 Maple	Satisfactory
900	Charley Carmean	Federal Hill	Satisfactory
901	G. Semans	W. Maple St.	Satisfactory
902	B. McClain	33 S. 5th St.	Satisfactory
903	M. C. Schekelhayer	64 W. Maple St.	Satisfactory
904	Fred Kinnaman	Livery Stable	Satisfactory
905	Mrs. G. M. Mahan	54 W. Logan St.	Satisfactory
906	Hildah Roudebush	117 N. 9th St.	Satisfactory
907	Emma Spannuth	N. 9th St.	Satisfactory
908	Aaron Spannuth	133 N. 9th St.	Satisfactory
909	G. W. Passwater	Cicero Pike	Satisfactory
910	Emma Hartley	Cicero Pike	Satisfactory
911	J. M. Scott	Cicero Pike	Satisfactory
912	Mrs. Josephine Cloud	Cicero Pike	Satisfactory
913	Mr. C. Walls	Cicero Pike	Satisfactory
914	Oley Grey	Cicero Pike	Satisfactory
915	Albert Cammack	Federal Hill	Satisfactory
916	Mrs. I. E. Haworth	Federal Hill	Satisfactory
917	Claud Burgess	Federal Hill	Satisfactory
918	Henry Sapper	Federal Hill	Satisfactory
919	C. Clover	Federal Hill	Satisfactory
920	Dave Roper	Federal Hill	Satisfactory
921	W. Hampton	Federal Hill	Bad
922	Vacant	Federal Hill	Satisfactory
923	H. Hurley	Federal Hill	Satisfactory
924	A. Hampton	Federal Hill	Satisfactory
925	W. Stuart	Federal Hill	Satisfactory
926	Jim Taylor	Federal Hill	Satisfactory
927	D. Dawson	Federal Hill	Satisfactory
928	Mrs. C. Parsley	Federal Hill	Satisfactory
929	George Irwin	Federal Hill	Satisfactory
930	D. Day	Federal Hill	Satisfactory

TABLE NO. 5—Continued.

Sample Number.	Resident.	Address.	Condition of Water.
931	Nancy Williams.....	Federal Hill.....	Satisfactory
932	John Hare.....	Federal Hill.....	Satisfactory
933	James Hizer.....	Federal Hill.....	Bad
934	J. H. Crawford.....	Federal Hill.....	Bad

TABLE NO. 6.

UNSANITARY PRIVIES IN THE CITY OF NOBLESVILLE, INDIANA.

Report Number.	Location of Property.	Owner of Property.
1	37 S. 5th St.....	Mrs. Sarah Price
2	Federal Hill.....	James Hizer
3	212 E. Cherry St.....	Joel Stafford
4	226 E. Cherry St.....	Mrs. Pruitt
5	233 Logan St.....	O. Wilson
6	219 Logan St.....	E. M. Hare
7	E. Logan St.....	Cris. Howell
8	229 E. Clinton St.....	Mrs. Sam Craig
9	227 Logan St.....	Elmer Willis
10	215 E. Clinton St.....	A. C. Warner
11	207 E. Clinton St.....	John Hays
12	90 E. Clinton St.....	Mrs. Alice Voss
13	92 E. Clinton St.....	Mrs. Alice Voss
14	193 E. Wayne St.....	L. B. Mitchell
15	100 E. Wayne St.....	K. Kelly Brehm
16	114 E. Wayne St.....	C. L. Halloway
17	128 E. Wayne St.....	Mrs. G. Scott
18	184 E. Wayne St.....	Mrs. A. Voss
19	187 E. Harrison St.....	Mrs. Anna Deeds
20	185 E. Harrison St.....	Mrs. M. McDougal
21	165 E. Harrison St.....	Ed. Aldred
22	128 N. 11th St.....	E. Mynheir
23	131 N. 11th St.....	Mrs. E. A. Bechtel
24	129 N. 11th St.....	A. Caylor
25	128 N. 9th St.....	John Pfaff
26	166 E. Harrison St.....	J. W. Smith
27	133 Morton St.....	Henry Dills
28	123 Morton St.....	Mrs. John Bauchert
29	154 N. 12th St.....	Mrs. Sam Craig
30	67 E. Grant St.....	Mrs. Robert Batson
31	213 E. Grant St.....	Ed. Holderman
32	214 E. Grant St.....	K. Page
33	208 E. Grant St.....	Horace Malott
34	208 E. Grant St.....	Horace Malott
35	200 E. Grant St.....	Hohn Huntsinger
36	160 E. Grant St.....	A. Moore
37	Grant St.....	Ed. Cade
38	120 E. Central St.....	E. Pruitt
39	94 E. Central St.....	Harvey Smith
40	100 E. Central St.....	R. B. Poland
41	201 E. Central St.....	George Randall
42	222 E. Central St.....	H. B. Woddell
43	194 E. Central St.....	Porter Rousch
44	143 Evans St.....	J. M. Tindall
45	175 Evans St.....	Lee Kepner
46	223 E. Evans St.....	W. R. Walker
47	E. Evans St.....	Henry Bales
48	116 Evans St.....	Mrs. N. J. Maker
49	342 N. 10th St.....	Mrs. Morris
50	106 North St.....	Walter Scott
51	116 North St.....	Frank Cloverdale
52	120 North St.....	Ira Silway
53	140 E. North St.....	John Stephens
54	141 North St.....	Lem Faucett
55	211 North St.....	Mrs. Jesse Gascho
56	Evans Ave.....	Charley Stowen
57	N. 9th St.....	Mrs. Haverstick

TABLE NO. 6—Continued.

Report Number.	Location of Property.	Owner of Property.
58	252 N. 10th St. *	John Quear
59	344 S. 8th St.	F. Henderson
60	252 S. 8th St.	Frank Ward
61	51 W. Hannibal St.	Levi Spannuth
62	53 W. Hannibal St.	Levi Spannuth
63	59 W. Hannibal St.	Dr. Booth
64	73 W. Hannibal St.	Mrs. Will Bishop
65	66 S. 6th St.	Henry Caylor
66	67 W. Walnut St.	Mrs. Joe Elmick
67	62 W. Pleasant St.	Mrs. A. Thomas
68	60 W. Pleasant St.	Mac Hinds
69	58 W. Pleasant St.	Mac Hinds
70	52 W. Pleasant St.	Mrs. A. R. Tucker
71	249 S. 8th St.	Wainwright Trust Co
72	93 S. 8th St.	A. H. Wise
73	42 W. Plum St.	George Smilley
74	40 W. Plum St.	Allen Davis
75	64 W. Chestnut St.	E. L. Halsey
76	46 W. Chestnut St.	George Wheeler
77	61 W. Christian St.	W. F. Larve
78	58 W. Christian St.	W. Beaver
79	59 W. Christian St.	W. H. Woods
80	471 S. 6th St.	R. Ballard
81	97 S. Pratt St.	Frank Lacy
82	75 W. Chestnut St.	S. Hampton
83	76 W. Chestnut St.	Mac Hinds
84	185 S. 6th St.	Robert Graham
85	100 W. Division St.	Mrs. Elmick
86	104 W. Division St.	Sam Williams
87	91 W. Hannibal St.	Will Hedgepath
88	92 W. Hannibal St.	Jacob Hill
89	96 W. Hanniba. St.	Everett Neff
90	77 S. 5th St.	Mac Hinds
91	83 S. 5th St.	J. Dempsey
92	97 S. 5th St.	Mr. Hord
93	115 S. 5th St.	Nan Roberts
94	133 W. Vine St.	Ed. Bradfield
95	... W. Vine St.	B. Bennywell
96	... W. Vine St.	E. Swift
97	155 S. 5th St.	W. Barker
98	216 W. Walnut St.	Mr. Joe White
99	202 W. Walnut St.	Dave Eader
100	189 W. Walnut St.	W. A. Bastian
101	175 W. Walnut St.	Dave Eader
102	173 W. Walnut St.	George Dunn
103	129 W. Walnut St.	I. Wilson
104	73 S. 5th St.	Lillie Overton
105	247 S. 5th St.	I. Wilson
106	148 W. Pleasant St.	Fodera
107	134 W. Pleasant St.	Barney Stowe
108	148 W. Pleasant St.	Ed. Lawler
109	146 W. Pleasant St.	Will Gearhart
110	169 W. Pleasant St.	Henry Gaeth
111	166 W. Plum St.	Bud Lowther
112	118 W. Plum St.	Miss Bassett
113	132 W. Plum St.	Stenbrough
114	115 W. Plum St.	A. C. Waterman
115	139 W. Plum St.	Jas Marshall
116	172 W. Chestnut St.	John Durlfinger
117	138 W. Chestnut St.	Frank Weaver
118	500 S. 8th St.	Henry Bales
119	135 W. Chestnut St.	Henry Hizer
120	146 Christian St.	Henry Goens
121	... South St.	Lee George
122	... South St.	Earl Huffmann
123	125 Christian St.	Anna Walker
124	145 E. Christian St.	Dan Bradley
125	141 E. Christian St.	Albert Roberts
126	133 E. Christian St.	Mrs. Lamar
127	113 E. Christian St.	Wm. Holman
128	99 E. Christian St.	Jas. Kerns
129	87 E. Christian St.	Joe McVey
130	71 E. Christian St.	Walter White
131	118 E. Christian St.	Dr. Booth
132	413 S. 10th St.	Mrs. Gearhardt
133	433 S. 10th St.	Jas. Geiger

TABLE NO. 6—Continued.

Report Number.	Location of Property.	Owner of Property.
134	446 S. 9th St.	Underwood
135	450 S. 9th St.	Burcham
136	472 S. 9th St.	Noah Earl
137	478 S. 9th St.	J. H. Howe
138	Cor. Gerald & S. 9th Sts.	J. Whitman
139	538 S. 9th St.	Jas. Lockeridge
140	562 S. 9th St.	John McClain
141	99 E. Chestnut St.	C. Goettle
142	85 E. Chestnut St.	A. McKenzie
143	86 E. Chestnut St.	Levi Spannuth
144	102 E. Chestnut St.	D. A. Carson
145	120 E. Chestnut St.	George Spannuth
146	89 E. Plum St.	W. O. Perkins
147	330 E. Plum St.	Perry Westfield
148	104 E. Plum St.	J. Louis
149	122 E. Plum St.	W. C. Stephenson
150	109 E. Plum St.	J. Castetter
151	90 E. Washington St.	Mrs. E. J. Woods
152	84 E. Washington St.	F. Garrett
153	284 S. 11th St.	C. Merchant
154	212 S. 11th St.	F. Davis
155	160 S. 11th St.	Care of Fodera
156	164 S. 11th St.	Miss Meyers
157	99 E. Division St.	Lee Barger
158	115 E. Division St.	Mrs. Wm. Reed
159	165 S. 13th St.	A. W. Nixon
160	125 E. Vine St.	S. McFall
161	208 E. Vine St.	Alice Gibbons
162	... E. Vine St.	D. Reed
163	166 S. 13th St.	W. Stuart
164	157 E. Division St.	Mrs. John Batchert
165	183 E. Mulberry St.	Fred Hill
166	151 E. Mulberry St.	Gilbert Kemp
167	150 E. Mulberry St.	J. Bradfield
168	201 E. Mulberry St.	A. Gillum
169	205 E. Mulberry St.	I. Scott
170	189 E. Mulberry St.	M. E. Church
171	152 S. 14th St. ....	..... Swain
172	214 E. Division St. ....	..... Richwine
173	162 E. Division St.	Allen Davis
174	132 E. Division St.	John Thorn
175	114 E. Division St.	Charley Hadley
176	139 E. Division St.	V. McDaniel
177	149 E. Hannibal St.	E. E. Fisher
178	163 E. Hannibal St.	G. W. Sharklin
179	175 E. Hannibal St.	Mac Hinds
180	179 E. Hannibal St.	Mac Hinds
181	892 Cherry St.	Mrs. D. Craycraft
182	187 E. Cherry St.	Mrs. Maxwell
183	217 S. 11th St.	Perry Mendenhall
184	291 S. 11th St.	Harry Pfaff
185	335 S. 11th St.	George Young
186	355 S. 11th St.	Howard Hays
187	250 S. 10th St.	Dr. Booth
188	303 S. 10th St.	Mrs. Bectal
189	337 S. 10th St.	Glen Osborn
190	385 S. 10th St.	Wainwright Trust Co
191	312 S. 9th St.	Mrs. L. R. Cooper
192	266 S. 9th St.	George Palmer

REPORT
OF THE
DEPARTMENT OF WEIGHTS
AND MEASURES
FOR THE YEAR ENDING
SEPTEMBER 30, 1915

H. E. BARNARD, Ph. D.,
State Commissioner of Weights and Measures.

JOHN T. WILLETT,
Chief Inspector of Weights and Measures.

REPORT ON WEIGHTS AND MEASURES.

January 3, 1916.

Hon. Samuel M. Ralston, Governor, State of Indiana.

Sir:—Acting under instructions set out in Section 2, page 263 of the Acts of 1911, I report herewith the work done by that department of the State Board of Health in charge of the enforcement of the Weights and Measures Law.

In order that the work of the department and of the several city and county inspectors of weights and measures may be the more easily understood, I have tabulated the data in such form that the grand total of the inspections made during the year is shown. The work of the individual inspector is also set out in detail.

The grand total of inspections made during the year 1915 was 75,472. The inspectors working in the several cities and counties during the year tested 20,948 weighing machines, of which 20 per cent. were found to be incorrect. They tested 20,233 weights, of which 5.3 per cent. were found incorrect; 21,691 capacity measures were tested, of which 10.8 per cent were incorrect; 1,205 boxes and baskets were inspected, of which 8.3 per cent. were incorrect; 1,436 automatic pumps were inspected, of this number 16.4 per cent. were incorrect; 2,357 linear measures were inspected, of this number 15 per cent. were incorrect. A great variety of other weighing and measuring devices were inspected.

Fifty-one prosecutions were brought up during the year for violation of the Weights and Measures Law. Convictions were obtained in 29 cases, 23 cases were dismissed or continued. Fines to the amount of \$615.00 were imposed.

Your attention is called to the fact that in many cases brought for violation of the Weights and Measures Laws, convictions were not obtained. There are several reasons for this poor showing. In the first place, the local inspectors while usually appointed after examination, are not thoroughly trained in the work at hand. They have had no experience in the preparation of cases for trial. They are apt to magnify minor infractions of law and minimize important violations. They are sometimes contentious and arouse criticism and antagonism instead of securing co-operation and sympathy.

This is always to be expected when work is new. We feel, however, that the present organization throughout the State is efficient and that its work the coming year will not meet with the rebuffs and lack of spirit which was common when the departments were first organized. The wisdom of the legislature in providing for the careful supervision of the work of the local inspectors by the State Department has been manifested time and again. The work might be made even more efficient than now if the law had provided that all deputy inspectors and sealers should be appointed only after their fitness for the work had been determined by the State commissioners instead of as at present, leaving such appointments to the will of local authorities, who too frequently have no appreciation of the importance of inspection work and who, as in years past, continue to make use of the department as a refuge for party workers and disappointed candidates.

Inspectors were changed in the following cities and counties during the year. John M. Masselink, City Inspector, Terre Haute, resigned. A. G. Mogle was appointed in his place. Mr. Mogle took office September 1st.

Frank Bressler, City Inspector of Elkhart, resigned. In his place J. C. Stephens was appointed.

Maurice Walsh tendered his resignation in February and Louis Katzenbach was appointed in September.

C. D. Helm, County Inspector of Delaware County, tendered his resignation April 1st and George M. Merz was appointed in June.

The County Departments of Weights and Measures were discontinued in Grant and Madison Counties when J. B. McGuffin and Wm. H. Lagle were not reappointed.

This action by the County Commissioners was destructive in its effect upon the work which had been carried on with a considerable degree of success for the years 1913 and 1914, and these cases are in point in showing the necessity for removing the control of inspectors of weights and measures from local officials.

During the year special attention has been given to the use of the high form dry measure, by the State Department of Weights and Measures. The investigations show that in measuring commodities such as potatoes, the merchant using the high form measure gives the purchaser from twelve to thirteen pounds when he should give fifteen pounds net weight.

In the month of October an investigation was made of this type of measure at Aurora and Lawrenceburg. One hundred and ninety-two out of two hundred and six measures were condemned and broken up and thrown into the Ohio River. The same condition probably prevails in other parts of the State.

Next year special attention will be given to this type of measure. Assuming that the population of Aurora is 5,000 people and the average person consumes about three bushels of potatoes per year in that city, 15,000 bushels were sold at an average shortage of ten pounds per bushel. At sixty cents a bushel, the consumers lose about \$1,500 per year by short weight, on one article of food—an amount that would support an efficient inspector and provide a way to regulate not only the sale of short weight potatoes, but every other commodity bought and sold.

Standards for the following cities and counties were tested and sealed during the year: Columbus, Elkhart, Ft. Wayne, Huntington, Hammond, Indianapolis, Kokomo, Lafayette, Marion, Mishawaka, Richmond, South Bend and Vigo County.

During the year we have done considerable educational work in weights and measures and foods and drugs by shipping a large exhibit into cities and counties where no inspectors have been appointed and we feel that good will result from these exhibits.

We have had our exhibit in the following cities during the year: Grand View Chautauqua, Grand View; State Fair, Indianapolis; Home Coming Week, Bluffton; Farmers' Fair, Aurora; Farmers' Fair, Lawrenceburg; Pure Food Show, Indianapolis; Farmers' Fair, Martinsville.

LABORATORY WORK.

Section 2 of the Weights and Measures Law provides that the Commissioner of Weights and Measures, he or his deputies or inspectors at his direction, shall correct the standards of the several cities and counties and as often as once in two years compare the same with those in his possession. The laboratory work has not been so large this year, owing to the fact that only part of the city and county standards had to be tested.

Most of the work includes testing of city and county standards, standards for manufacturers and railroads.

A list of the apparatus tested during the year is as follows:

Cities or Counties.	Weights.		Dry Measures.		Liquid Measures.		Linear Measures.		Total.
	Cor-rect.	Con-demned	Cor-rect.	Con-demned	Cor-rect.	Con-demned	Cor-rect.	Con-demned	
Columbus.....	55	5	6	.....	6	.....	2	.....	74
Elkhart.....	31	.....	5	.....	5	.....	2	.....	43
Ft. Wayne.....	44	4	7	.....	5	.....	.....	.....	60
Huntington.....	14	.....	.....	.....	5	.....	.....	.....	19
Indianapolis.....	17	7	.....	.....	.....	.....	.....	.....	24
Kokomo.....	38	.....	5	.....	5	.....	.....	.....	55
Lafayette.....	.....	25	.....	.....	.....	.....	1	.....	26
Marion.....	18	.....	.....	.....	6	.....	.....	.....	24
Mishawaka.....	35	.....	5	.....	6	.....	.....	.....	46
South Bend.....	25	10	5	.....	7	.....	.....	.....	47
Richmond.....	35	20	5	.....	7	.....	.....	.....	67
Vigo County.....	13	.....	.....	.....	.....	.....	.....	.....	13
Totals.....	325	78	38	.....	52	.....	5	.....	498

Standards for the Lake Erie and Western Railroad Company and Fairbanks-Morse Company, and samples of baskets and boxes submitted by the New Albany Basket Company and a great number of other weighing and measuring devices were also tested and sealed.

In an endeavor to promote the sale of all foodstuffs by weight rather than by the unsatisfactory and inaccurate practice of measuring, the City of Indianapolis enacted an ordinance fixing certain standard weights of all common commodities and provided that they should be sold only in terms of weight. The wholesale dealers, commission men and most merchants strongly approved the passage of the ordinance and at meetings held for the purpose of explaining its provisions, agreed to work in conformity with it. The enforcement of the ordinance was undertaken

by Inspector Adam, who proceeded with unqualified success until certain hucksters, dissatisfied with the law because it required them to give larger quantities of such commodities as potatoes, apples, etc., than they had heretofore been compelled to do, proceeded to protest against the enforcement of the ordinance on the ground that it was unconstitutional and in violation of the State law, which already covered the subject. The lower courts sustained the contention advanced by the attorneys for the defendants and the ordinance is inoperative.

While the action of the courts is undoubtedly in line with the law, it is unfortunate that the ordinance proposed cannot be enforced. It is unfortunate because the honest merchant finds it difficult to do business on the double system of sale by weight and by measure. It is unfortunate for the consumer because, in many instances, she has no way of knowing how much she is getting for her money and no way of requiring that her grocer or huckster deliver her a definite and fixed amount of the produce she is purchasing.

It is recommended that legislation be enacted by which it may be possible to require the sale of commodities by weight only and that the use of the inadequate and inaccurate measure be especially prohibited, except in the case of fluids. Such legislation would enable the cities more successfully than now to protect the consumer and standardize business.

Respectfully submitted,

H. E. BARNARD,
State Commissioner of Weights and Measures.

REPORT OF THE STATE DEPARTMENT OF WEIGHTS
AND MEASURES OF TESTS MADE OF THE SCALES
AND WEIGHTS USED AT STATE INSTITUTIONS
UNDER THE SUPERVISION OF THE BOARD OF
STATE CHARITIES.

The Weights and Measures Law as amended in 1913 makes it the duty of the State Commissioner of Weights and Measures annually to test the scales, weights and measures used in checking the receipts or disbursement of supplies in the institutions operated under the jurisdiction of the State Board of Charities.

Inspector Willett, during the year, visited seventeen State institutions, where he tested eighty-three scales and two hundred and thirty weights.

In 1913, the first inspection, 44.3 per cent. of the scales tested were found incorrect and 14 per cent. of the weights were incorrect.

In 1914, the second inspection, 26.2 per cent. of the scales tested were incorrect, and 13.3 per cent. incorrect weight were found.

In 1915, the percentage of incorrect scales were reduced to 16.8 per cent. and of weights 9.6 per cent.

In general, the equipment at institutions are in a very much better condition than at the time of the first and second inspections. In most of the institutions new scales have been installed or the old ones have been repaired.

The summary below shows the condition of the scales and weights at each institution visited.

**SUMMARY OF TESTS MADE, TOGETHER WITH THE NUMBER OF PROSECUTIONS AND THE AMOUNT OF FINES PAID
IN ALL CITIES AND COUNTIES OF INDIANA.**

Cities and Counties.	Weighting Machines.	Weights.	Dry Measures.	Liquid Measures.	Milk Jars.	Automatic Pumps and Gauges.	Boxes and Baskets.	Yard and Counter Measures.	Gas, Water and Elec- tric Meters.	Glass Graduates.	Wagon Beds.	Miscel- laneous.	Prosecu- tions.	Convictions.	Cases Dis- missed or Continued.	Fines.
Indianapolis.....	5,971	8,848	7,109	2,363	2,801	4	13	1,013	56	7						
Evansville.....	5,708	532	521	213	2,801	34	374	10								
Terre Haute.....	180	13	134	159								coal	1		1	
Fort Wayne.....	1,108	472	1,546	449		127		52				25				
South Bend.....	1,798	1,240	644	42		25	1		43			911	6			
Gary.....	1,716	1,033	342	292	88	26	53	81				162	6			\$120 00
Marion.....	1,244	1,033	342	231		208							2		1	
Lafayette.....	1,554	678	17	43				131					1			40 00
Hammond.....	372	1,676	629	5				189					1			
Richmond.....	956	1,04	34	34	13	83		189					1			
Elkhart.....	374	104	34	34	898	34	111	180	43		97	331	6		6	
Kokomo.....	1,249	54	732	675	159	159	540	113				33	1			
Columbus.....	1,662	1,152	484	947	1,262	61										
Mishawaka.....	328	283	50	54		19										
Vigo County.....	426	615	103	271		27		16				coal	6		1	120 00
Lake County.....	549	286	134	65	Lake County	109	123	259	35		139	34	6			
Montgomery County.....	1,044	1,205	369	310		47	114	113			78		4			80 00
Delaware County.....	865	1,055	424	730	504	57		74								
Huntington County.....	868	1,999	171	146	61	223										
Lagrange County.....	421	458		168		93										20 00
Vermillion County.....	448	317	206	8									1			
State.....	204															
Totals.....	20,948	20,223	14,290	7,391	5,627	1,436	1,206	2,357	178	7	314	1,500	29	19	10	\$360 00

Percentage of scales found incorrect..... 20.0
 Percentage of weights found incorrect..... 5.3
 Percentage of capacity measures found incorrect..... 10.8
 Percentage of automatic pumps and gauges found incorrect..... 16.4
 Percentage of boxes and baskets found incorrect..... 8.3
 Percentage of yard and counter measures found incorrect..... 15.0
 Percentage of gas and electric meters found incorrect..... 33.0
 The grand total of inspections for the year 1915..... 75,472

**REPORT OF THE STATE DEPARTMENT OF WEIGHTS AND MEASURES
OF TESTS MADE OF THE SCALES AND WEIGHTS USED AT STATE
INSTITUTIONS UNDER THE SUPERVISION OF THE BOARD OF STATE
CHARITIES FOR THE YEAR 1915.**

State Institutions.	Scales Correct.	Scales Adjusted.	Scales Condemned.	Scales Condemned for Repairs.	Total Number Scales Inspected.	Weights Correct.	Weights Adjusted.	Weights Condemned.	Weights Condemned for Repairs.	Total Number Weights Inspected.
Central Hospital for Insane, Indianapolis.	4				4	8				8
School for Blind, Indianapolis.	4				4	12		1		13
Indiana Womans' Prison, Indianapolis.	4				4	15				15
State School for the Deaf, Indianapolis.	3				3	10		1		11
Indiana Girls' School Indianapolis.	2				2	6				6
State Soldiers' Home, Lafayette.	5				5	12				12
Eastern Hospital for Insane, Richmond.	5			1	6	28				28
School for Feeble-Minded Youths, Ft. Wayne.	6			1	7	18				18
Southern Hospital for Insane, Evansville.	4			2	6	11			3	14
Indiana State Prison, Michigan City.	8			1	9	14	8			22
Northern Hospital for Insane, Logansport.	9			2	11	20				20
Indiana Tuberculosis Hospital, Rockville.	1			1	2				3	3
Indiana Boys' School, Plainfield.	2	1	1		4	8				8
Indiana Reformatory, Jeffersonville.	1	1	1		3	6				6
Southeastern Hospital for Insane, North Madison.	4	1			5	20	1			21
Soldiers' and Sailors' Orphans' Home, Knightstown.	1		1		2	5			5	10
Village for Epileptics, New Castle.	6				6	15				15
Totals.	69	3	3	8	83	208	9	2	11	230

Percentage of scales found incorrect. 16.8
 Percentage of weights found incorrect. 9.6

SUMMARY OF TESTS MADE IN EVANSVILLE.

By John C. Wallenmeyer, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	666		42			708
Weights inspected.....	499		33			532
Dry measures inspected.....	485		36			521
Liquid measures inspected.....	211		2			213
Milk jars inspected.....	2,801					2,801
Automatic pumps and gauges.....	25		9			34
Baskets inspected.....	118					118
Boxes inspected.....	256					256
Yard and counter measures.....	10					10
Gas meters inspected.....	51		3			54
Electric meters inspected.....	1		1			2
Taxi meters inspected.....						
Glass graduates.....	7					7
Miscellaneous inspections.....						
Total number inspections.....						5,256

SUMMARY OF TESTS MADE IN INDIANAPOLIS.

By Herman Adam, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	5,971	163	126	68		6,328
Weights inspected.....	8,823	1	24			8,848
Dry measures inspected.....	6,826		283			7,109
Liquid measures inspected.....	2,265		98			2,363
Milk jars inspected.....						
Automatic pumps and gauges.....	4					4
Baskets inspected.....	5		8			13
Boxes inspected.....						
Yard and counter measures.....						
Inspected.....	1,013					1,013
Measuring pumps inspected.....	61		2			63
Gas meters inspected.....						
Electric meters inspected.....						
Taxi meters inspected.....						
Miscellaneous inspections.....						
Loads of coal reweighed.....						160
Complaints.....	130					
Total number inspections.....						25,901

Mr. Adam reports twenty-two arrests. Convictions were obtained in ten cases; in one case the defendant was fined \$50.00 and costs; one case the defendant was fined \$5.00 and costs, and eight cases the fines imposed were \$10.00 each and costs.

SUMMARY OF TESTS MADE IN FORT WAYNE.

By O. B. Tolan, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales tested.....	987	86	13	19		1,105
Weights tested.....	464		8			472
Dry measures inspected.....	1,521		25			1,546
Liquid measures inspected.....	436		13			449
Milk jars inspected.....						
Automatic pumps and gauges.....	122			5		127
Baskets inspected.....						
Boxes inspected.....						
Yard and counter measures inspected.....	39		13			52
Gas meters inspected.....						
Electric meters inspected.....						
Taxi meters inspected.....						
Glass graduates.....						
Miscellaneous inspections— Loads of coal reweighed.....						25
Total number inspections..						2,774

SUMMARY OF TESTS MADE IN TERRE HAUTE.

By A. E. Mogle, Inspector, for the Months of September, October and November, 1915

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	100	5	11	64		180
Weights inspected.....	11			2		13
Dry measures inspected.....	91		43			134
Liquid measures inspected.....	105		54			159
Milk jars inspected.....						
Automatic pumps and gauges.....	24	3		8		35
Baskets inspected.....						
Boxes inspected.....						
Yard and counter measures.....						
Gas and water meters in- spected.....						
Electric meters inspected.....						
Taxi meters inspected.....						
Glass graduates.....						
Miscellaneous inspections.....						
Wagon beds inspected.....						
Total number inspections..						521

Mr. Mogle reports one prosecution. Case still pending.

SUMMARY OF TESTS MADE IN SOUTH BEND.

By Byron B. Miller, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	1,366	238	55	139		1,798
Weights inspected.....	1,190	47	3			1,240
Dry measures inspected.....	519		125			644
Liquid measures inspected.....	26	9		1		42
Milk jars inspected.....						
Automatic pumps and gauges	15	9		1		25
Baskets inspected.....	1					1
Boxes inspected.....						
Yard and counter measures.....						
Gas meters inspected.....	31	fast 7	slow 5			43
Electric meters inspected.....						
Taxi meters inspected.....						
Glass graduates.....						
Miscellaneous inspections.....						911
Total inspections.....						4,661

SUMMARY OF TESTS MADE IN MARION.

By Otis Weesner, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	1,208	15	15	6		1,244
Weights inspected.....	663		15			678
Dry measures inspected.....	63		14			77
Liquid measures inspected.....	231					231
Milk jars inspected.....						
Automatic pumps and gauges	206	2				208
Baskets inspected.....						
Boxes inspected.....						
Yard and counter measures.....						
Gas meters inspected.....						
Electric meters inspected.....						
Taxi meters inspected.....						
Glass graduates.....						
Miscellaneous inspections.....						162
Total number inspections.....						2,600

Mr. Weesner reports a prosecution against David Studebaker for operating a false scale. Case is still pending.

SUMMARY OF TESTS MADE IN LAFAYETTE.
By Frank Fowler, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	500	.....	35	21	.....	556
Weights inspected.....	.....	.....	.....	.....	.....	.....
Dry measures inspected.....	564	.....	51	.....	.....	615
Liquid measures inspected....	43	.....	.....	.....	.....	43
Milk jars inspected.....	.....	.....	.....	.....	.....	.....
Automatic pumps and gauges	.....	.....	.....	.....	.....	.....
Baskets inspected.....	.....	.....	.....	.....	.....	.....
Boxes inspected.....	.....	.....	.....	.....	.....	.....
Yard and counter measures... ..	131	.....	.....	.....	.....	131
Gas meters inspected.....	.....	.....	.....	.....	.....	.....
Electric meters inspected.....	.....	.....	.....	.....	.....	.....
Taxi meters inspected.....	.....	.....	.....	.....	.....	.....
Glass graduates.....	.....	.....	.....	.....	.....	.....
Miscellaneous inspections.....	.....	.....	.....	.....	.....	.....
Total number inspections.. ..	.....	.....	.....	.....	.....	345

Mr. Fowler reports two prosecutions and two convictions.

SUMMARY OF TESTS MADE IN RICHMOND.
By George A. McKinley, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	780	108	14	54	.....	956
Weights inspected.....	1,610	51	4	11	.....	1,676
Dry measures inspected.....	617	.....	12	.....	.....	629
Liquid measures inspected....	465	.....	21	.....	.....	486
Milk jars inspected.....	.....	.....	.....	.....	.....	.....
Automatic pumps and gauges	67	16	.....	.....	.....	83
Baskets inspected.....	.....	.....	.....	.....	.....	.....
Boxes inspected.....	.....	.....	.....	.....	.....	.....
Yard and counter measures	.....	.....	.....	.....	.....	.....
inspected.....	179	.....	10	.....	.....	189
Gas meters inspected.....	.....	.....	.....	.....	.....	.....
Electric meters inspected.....	.....	.....	.....	.....	.....	.....
Glass graduates.....	.....	.....	.....	.....	.....	.....
Taxi meters inspected.....	.....	.....	.....	.....	.....	.....
Miscellaneous inspections.....	.....	.....	.....	.....	.....	.....
Total number inspections.. ..	.....	.....	.....	.....	.....	4,019

Mr. McKinley reports one prosecution for selling short weight. Case was lost.

SUMMARY OF TESTS MADE IN HAMMOND.
By Frank J. O'Rourke, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	215	52	5			272
Weights inspected.....						
Dry measures inspected.....		5				5
Liquid measures condemned.....						
Milk jars inspected.....						
Automatic pumps and gauges.....						
Baskets inspected.....						
Boxes inspected.....						
Yard and counter measures inspected.....						
Gas meters inspected.....						
Electric meters inspected.....						
Taxi meters inspected.....						
Glass graduates.....						
Wagon beds inspected.....						
Miscellaneous inspections.....						
Total number inspections.....						277

Mr. O'Rourke reports one short-measure case.

SUMMARY OF TESTS MADE IN GARY.
By Clarence M. Renollet, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	383	37	61	255		716
Weights inspected.....	633	114	34	237		1,033
Dry measures inspected.....	113		218	11		342
Liquid measures inspected.....	97		158	37		292
Milk jars inspected.....	88					88
Automatic pumps and gauges.....	15			11		26
Baskets inspected.....	17					17
Boxes inspected.....	36					36
Yard and counter measures.....	15		66			81
Gas meters inspected.....						
Electric meters inspected.....						
Taxi meters inspected.....						
Glass graduates.....						
Miscellaneous inspections.....						
Total number inspections.....						2,631

Mr. Renollet reports six prosecutions and six convictions. In each case the defendant was fined \$10.00 and costs.

SUMMARY OF TESTS MADE IN KOKOMO.

By G. S. Williams, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	539	509	120	81		1,249
Weights inspected.....	6	6	12			24
Dry measures inspected.....	395		337			732
Liquid measures inspected.....	433		242			675
Milk jars inspected.....	850		48			898
Automatic pumps and gauges	77	71		11		159
Baskets inspected.....	2			4		6
Boxes inspected.....	105					105
Yard and counter measures....	84	94	2			180
Gas meters inspected.....	2		11			13
Electric and water meters in- spected.....	9		21			30
Taxi meters inspected.....						
Glass graduates.....						
Miscellaneous inspections—						
Loads of coal reweighed....						331
Wagon beds inspected.....	45	8	44			97
Total number inspections.....						4,499

Mr. Williams reports six prosecutions, two for short weight potatoes, two for not weighing ice, one for selling potatoes by bag, one for selling butter short weight. Cases pending.

SUMMARY OF TESTS MADE IN COLUMBUS.

By G. Ora McClain, Inspector, for the Year 1915.,

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	585	21	47	19		662
Weights inspected.....	1,088	35	25	4		1,152
Dry measures inspected.....	436		48			484
Liquid measures inspected....	872		75			947
Milk jars inspected.....	1,257		5			1,262
Automatic pumps and gauges	58		1	1		61
Baskets inspected.....	415		93			508
Boxes inspected.....	32					32
Yard and counter measures in- spected.....	97		19			116
Gas meters inspected.....						
Electric meters inspected.....						
Taxi meters inspected.....						
Glass graduates.....						
Miscellaneous inspections—						
Loads of coal reweighed....						33
Total number inspections.....						5,257

SUMMARY OF TESTS MADE IN ELKHART.

By J. C. Stephens, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	332	26	5	11		374
Weights inspected.....	92	7	5			104
Dry measures inspected.....	31					31
Liquid measures inspected.....	23		11			34
Milk jars inspected.....	13					13
Automatic pumps and gauges	30	1	1	2		34
Baskets inspected.....						
Boxes inspected.....						
Yard and counter measures						
inspected.....						
Gas meters inspected.....						
Electric meters inspected.....						
Taxi meters inspected.....						
Glass graduates.....						
Miscellaneous inspections.....						
Total number inspections.....						560

SUMMARY OF TESTS MADE IN MISHAWAKA.

By H. E. Strubbe, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	226	48	34	20		328
Weights inspected.....	260	23				283
Dry measures inspected.....	46			4		50
Liquid measures inspected.....	53			1		54
Milk jars inspected.....						
Automatic pumps and gauges	19					19
Baskets inspected.....						
Boxes inspected.....						
Yard and counter measures....						
Gas meters inspected.....						
Electric meters inspected.....						
Taxi meters inspected.....						
Glass graduates.....						
Wagon beds inspected.....						
Miscellaneous inspections.....						
Total number inspections.....						734

Mr. Strubbe reports one prosecution. Case still pending.

SUMMARY OF TESTS MADE IN VERMILLION COUNTY.
By Pearl Edmonds, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	429	12	31	16		448
Weights inspected.....						
Dry measures inspected.....						
Liquid measures inspected.....						
Milk jars inspected.....						
Automatic pumps and gauges						
Boxes and baskets inspected.....						
Yard and counter measures						
inspected.....						
Gas and electric meters in- spected.....						
Taxi meters inspected.....						
Total number inspections..						448

Mr. Edmonds reports that this office will be abandoned this year.

SUMMARY OF TESTS MADE IN HUNTINGTON.
By D. S. Austin, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	594	88	156	30		868
Weights inspected.....	141		58			199
Dry measures inspected.....	139		32			171
Liquid measures inspected.....	116		30			146
Milk jars inspected.....	53		8			61
Automatic pumps and gauges	123	45	35	10		223
Baskets inspected.....						
Boxes inspected.....						
Yard and counter measures in- spected.....						
Gas meters inspected.....						
Electric meters inspected.....						
Taxi meters inspected.....						
Glass graduates.....						
Wagon beds.....						78
Miscellaneous inspections.....						
Total number inspections..						1,746

Mr. Austin reports four prosecutions and four convictions.

SUMMARY OF TESTS MADE IN VIGO COUNTY.

By Maurice Walsh for Months of January and February and by Louis Katzenbach for the Months of September, October and November, 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	333	45	14	34		426
Weights inspected.....	592	8	4	11		615
Dry measures inspected.....	67		33	3		103
Liquid measures inspected.....	255		16			271
Milk jars inspected.....						
Automatic pumps and gauges	20	3	3	1		27
Baskets inspected.....						
Boxes inspected.....						
Yard and counter measures....	8		8			16
Gas meters inspected.....						
Electric meters inspected.....						
Taxi meters inspected.....						
Glass graduates.....						
Miscellaneous inspections.....						
Total number inspections..						1,458

SUMMARY OF TESTS MADE IN LAKE COUNTY.

By J. A. Umpleby, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	354	44	80	71		549
Weights inspected.....	233	28	5			266
Dry measures inspected.....	57		77			134
Liquid measures inspected.....	37		28			65
Milk jars inspected.....						
Automatic pumps and gauges	68	28		13		109
Baskets inspected.....						
Boxes inspected.....						
Yard and counter measures....	64		59			123
Gas meters.....						
Electric meters inspected.....						
Taxi meters inspected.....						
Glass graduates.....						
Miscellaneous inspections.....						
Total number inspections..						1,266

Mr. Umpleby reports six prosecutions and six convictions.

SUMMARY OF TESTS MADE IN LAGRANGE COUNTY.
By O. L. Robinson, Inspector, for the Year 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	185	193	43			421
Weights inspected.....	450		8			458
Dry Measures inspected.....						
Liquid measures inspected....	134		34			168
Milk jars inspected.....						
Automatic pumps and gauges.....		75	14		4	93
Baskets inspected.....						
Boxes inspected.....						
Yard and counter measures....	64		10			74
Gas meters inspected.....						
Electric meters inspected.....						
Taxi meters inspected.....						
Glass graduates.....						
Miscellaneous inspections.....						
Total number inspections..						1,214

SUMMARY OF TESTS MADE IN MONTGOMERY COUNTY.
By John F. Sullivan, Inspector.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	763	149	44	90		1,044
Weights inspected.....	1,170	21	88	110		1,205
Dry measures inspected.....	350		19			369
Liquid measures inspected....	299		11			310
Milk jars inspected.....						
Automatic pumps and gauges.....	33	11				41
Baskets inspected.....	114					114
Boxes inspected.....						
Yard and counter measures....	259					259
Gas meters inspected.....						
Electric and water meters in- spected.....	35					35
Taxi meters inspected.....						
Glass graduates.....						
Wagon beds.....	119		20			139
Miscellaneous—Loads of coal weighed correct.....						38
Total number inspections..						3,560

SUMMARY OF TESTS MADE IN DELAWARE COUNTY.

By C. D. Helm, Inspector, for the Months of January, February, March and April, 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	314	119	36	35		504
Weights inspected.....	628	19	2			649
Dry measures inspected.....	130		59			189
Liquid measures inspected.....	205		35			240
Milk jars inspected.....	500		4			504
Automatic pumps and gauges	18	2	2			22
Baskets inspected.....						
Boxes inspected.....						
Yard and counter measures....	28		57			85
Gas and water meters.....						
Electric meters.....						
Taxi meters.....						
Glass graduates.....						
Miscellaneous inspections.....						
Wagon beds inspected.....	3		2	1		6
Total number inspections.....						1,201

SUMMARY OF TESTS MADE IN DELAWARE COUNTY.

By George L. Merz, Inspector, from June to November, 1915.

	Cor- rect.	Ad- justed.	Con- demned.	Con- demned for Repairs.	Rein- spected.	Total Inspec- tions.
Scales inspected.....	285		31	45		361
Weights inspected.....	358		48			406
Dry measures inspected.....	146		89			235
Liquid measures inspected.....	163		35			198
Milk jars inspected.....						
Automatic pumps and gauges	33					33
Baskets inspected.....						
Boxes inspected.....						
Yard and counter measures....	12		16			28
Gas meters inspected.....						
Electric meters inspected.....						
Taxi meters inspected.....						
Glass graduates.....						
Miscellaneous inspections.....						
Total number inspections.....						1,261

PRESCRIPTION BALANCES, APOTHECARIES AND METRIC WEIGHTS.

B. W. COHN.

Business cannot be conducted fairly unless the scale over which practically all commodities pass tells the producer how much he is selling and the consumer what he is getting and an inaccurate balance operates usually to defraud the purchaser or injure the seller. It is to furnish protection to the industry in the buying and selling of commodities that railroad, platform and counter scales are inspected. There is, however, another type of scales which need careful adjustment, and that is the prescription balance used by pharmacists. In the use of apothecaries' weights the element of fraud hardly enters. The quantities sold are small and prices are not closely fixed as in the case of gross commodities. It is, however, of the utmost importance that the prescription balance is accurate. The physician prescribes minute doses of highly potent drugs and regulates his dosage to agree with pharmacopoeial requirements. Any departure therefore from his prescription may produce results which he does not intend. The patient may get a less quantity of the active ingredient than the physician feels is necessary in the case, or an abnormal dosage of dangerous drugs may be administered by reason of a faultily compounded prescription due to the use of inaccurate weights and balances.

Inspector Cohn during the past year has given much of his time to the condition of prescription balances and weights and the results of his work cannot fail to be of interest. He has visited 876 pharmacies and in each case investigated the condition of the balances and of the weights used.

Of the 871 balances inspected he found but 441 in good condition, that is, but 50 per cent were in such working order that he could place upon them the State inspection seal. Three hundred and forty balances were in fair condition only and 90, or a trifle over 10 per cent, he condemned outright. The inspector reports that in a number of instances he found balances in use on the prescription counter which were utterly unfit for their purpose.

He found the apothecaries' weights far more commonly inaccurate than the balances. Out of 10,921 weights tested, he found but 659 accurate; 6,335 were light; 1,990 were heavy and 1,828 were con-

demned because they were either too light or too heavy to be longer used. The weights tested varied in size from $\frac{1}{2}$ grain to 2 drachms. The light weights were usually badly worn and in many instances had been cleaned by dipping in acid which had dissolved the material of which they were made. The heavy weights were corroded with rust or covered with grease and dirt. Many homemade weights were found. Pieces of wire, odd shaped bits of metal, pieces of rock were used in place of weights which undoubtedly had been lost or destroyed.

The metric weight is slowly but surely replacing the apothecaries' weight in the pharmacy. Two thousand and thirty metric weights were tested or 16 per cent of all the weights used. The condition of the metric weights was somewhat better than that of the apothecaries, probably because they had not been in use for so long a time. Three hundred and eleven weights varying in size from .01 to 10 grammes were found to be accurate; 1,040 were light; 617 were heavy and 62 were so inaccurate that they were condemned.

When less than 8 per cent of all the weights used at the pharmacy are accurate the value of the inspection is evident. Twice as many weights were condemned as were found accurate or 14 per cent of the entire number inspected. Fifty-seven per cent of the weights were light and 21 per cent heavy.

In view of the facts discussed above and shown in detail by the tables below, it is advisable that all pharmacists discard the weights they have used since they began business and equip themselves with new weights of known accuracy. These weights if made of brass should be lacquered or painted to resist corrosion.

Weights should never be cleaned by polishing with abrasives or washing with acids. If kept in a suitable case they will not corrode so as to gain weight or tarnish so that scouring is necessary to keep them bright. When purchasing new sets of weights it is highly advisable to buy from reputable houses whose work is sure to be accurate and standard. The purchase of cheap weights instead of being a saving is extravagance.

It should not be necessary to advise pharmacists to care for their balances but the condition in which we have found them drives us to the conclusion that many drug clerks fail to appreciate the fact that a pharmacist's balance is a delicate instrument that will only give correct weight when carefully handled. All balances should be enclosed in a dust proof case, and this case should always be in place when the balance is not in use. A box which fits snugly over the balance and which is never removed except when a weighing is

desired, protects the instrument from injury and assures its good condition. Liquids should not be spilled on the balance nor should powders be permitted to gain access to the levers or torsion rods. Whenever a balance is not working properly, as is easily determined by the ease with which they "break" under a slight load, they should be returned to the makers for adjustment. The character of a pharmacist's business may be determined by the condition of his balance and weights just as surely as by the quality of the drugs he dispenses by their aid.

METRIC WEIGHTS.

Weights.	Condition.				Total.
	Accurate.	Light.	Heavy.	Condemned.	
10 Grammes....	19	141	85	12	257
5 Grammes....	24	145	97	9	275
2 Grammes....	44	187	153	7	391
1 Gramme....	24	105	84	1	214
.5 Gramme....	44	117	64	5	230
.2 Gramme....	46	148	71	9	274
.1 Gramme....	39	76	32	2	149
.05 Gramme....	26	50	12	5	93
.02 Gramme....	26	49	11	8	94
.01 Gramme....	19	22	8	4	53
Totals.....	311	1,040	617	62	2,030

APOTHECARIES' WEIGHTS.

Weight.	Condition.				Total.
	Accurate.	Light.	Heavy.	Condemned.	
2 Drachm.....	13	796	238	501	1,548
1 Drachm.....	14	708	246	359	1,436
2 Scruple.....	18	745	268	247	1,278
1 Drachm.....	17	635	257	142	1,051
1 Scruple.....	19	525	252	183	979
10 Grains.....	67	513	141	163	884
6 Grains.....	5	60	33	31	129
5 Grains.....	122	761	135	82	1,100
4 Grains.....	105	543	119	24	791
3 Grains.....	96	371	93	37	597
2 Grains.....	108	394	114	39	655
1 Grain.....	44	162	75	10	291
1/2 Grain.....	31	122	19	10	182
Totals.....	659	6,335	1,990	1,828	10,921

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